

*The American Journal of*

# CLINICAL MEDICINE

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AUGUST

M C M X V

## This Number Speaks for Itself!

SO SURE are we that you will enjoy this number of CLINICAL MEDICINE that we are not going to say a word more about it here. Look it over—it can speak for itself.

Our next (September) issue will be a Children's Number. Read the announcement of "Special Leaders" on advertising page 2. YOU are invited to contribute something for this issue. Please send us at least one practical item for the condensed symposium on children's disease-problems which is to be one of its big features. It is going to be a "hummer"—and you will help us make it one.

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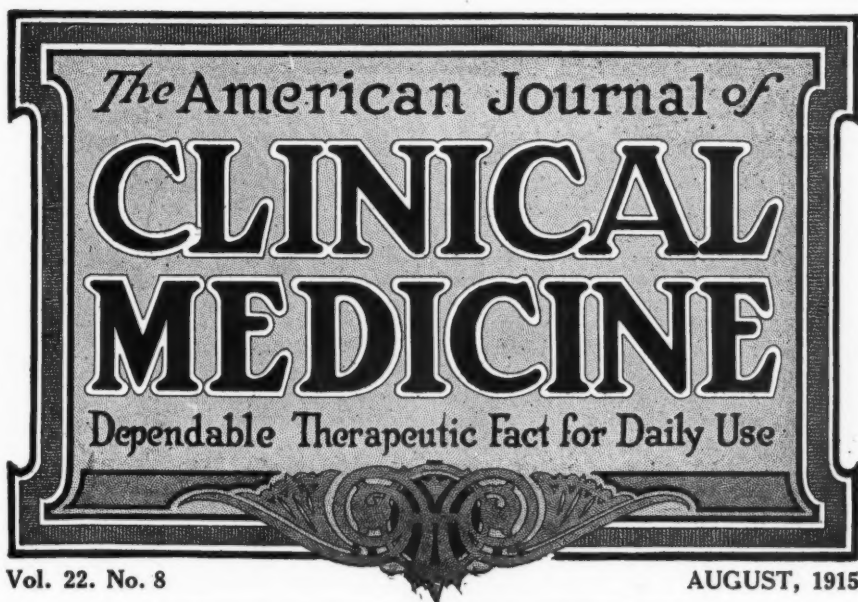
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AUGUST, 1915

## Active Principles and "Nature"

IT really is too bad that the druggists of the country, whom we know to be an intelligent and well-informed class of men, should have fastened upon them such an absurdly impossible expression of opinion as that which appears in an article in *The N. A. R. D. Journal* of May 13, being the fourth in a series of articles on The Drug Store Laboratory, under the subtitle, "A Plea for the Fifty Percent Tincture." We have a too good acquaintance with retail druggists, and far higher respect for them, than to imagine for a moment that the article in question represents their attitude as a body. But it is a thousand pities that they should even appear to be sponsors for so ridiculous an argument as is presented here.

If this is the best "plea" that can be put forward in behalf of the fifty-percent tincture, we fear that the fifty-percent tincture has a slim chance of surviving. It is, in reality, of course, not a plea at all, but a pettish, spiteful attack upon active-principle pharmacy. And, like most pettish, spiteful attacks, it starts out with a statement that is one part truth and three parts lie.

"The active-principle theory of medication is based," it declares, "upon the fact that the

active principle of a plant establishes its medicinal usefulness, and that all other constituents of the plant are useless."

To begin with, as we have pointed out over and over again, there is no such thing as an "active-principle theory of medication." Those who advocate the use of the active principles have no theory or system of medication different from that of applied medical science in general. It is not a matter of therapeutics at all, but of pharmacy; not of the application, but of the preparation, of drugs. Noting this correction, in passing, it may next be pointed out that the advocacy of the active principle is not based upon the fact that "the active principle of a plant establishes its medicinal usefulness," which is one thing, but that pharmacology has arbitrarily standardized many drugs upon this or that active-principle content, which is quite another thing. And last comes the lie direct, which is the most absurd assertion of all, namely, that active-principle advocacy holds that "all other constituents of the plant are useless."

Our critic works himself into a high state of excitement over the presumptuous audacity of mere man in undertaking to

put asunder what God hath joined together. "The constituents of a vegetable drug," he solemnly declares, "are given it by nature for a purpose no man has yet been able to fathom." (Pray note the delightful ingenuousness of this confession!)

"These drugs are employed [by nature, of course, not by man] to relieve sickness and disease. The chemical complexity of a plant's constituents, the relation that one of these constituents bears to the other, the necessity for all to make a harmonious whole, are a result of nature's handiwork, and it is perfect. Yet along comes man, and ruthlessly tears down this complex yet perfect handiwork, selects one constituent which *he* thinks is the most important, and in his childlike ignorance offers this *one* constituent to the physician as a remedy par excellence."

Horrible, isn't it? Like wrecking a happy home. Makes one ashamed to look a bit of strychnine in the face.

"The rational way to study this thing would be thus:" continues our accuser. "The human body is also a very complex chemical handiwork. [Here follows an eloquent characterization of the human form divine.] Yet along comes man, slices off a piece here, cuts out a piece there, and calls it a cure, whereas, in fact, a cripple has been produced, for no one with a part of his organism missing is able to perform the functions of a perfect human being." Hot shot for the surgeon, too!

We might suggest another way to look at "this thing." Here is one of these peaceful, beneficent, happy-family combinations of constituents, given to a plant by nature for a purpose which no man has yet been able to fathom, a complex but perfect piece of nature's handiwork. Along comes man, arrogantly says *he* knows what it's for, blasphemously tears apart this complex yet perfect handiwork, selects the leaf or the seed or the root, as the case may be, presumptuously discarding all the rest of the plant, mashes it up, adds alcohol to it (more blasphemy), and lo, the fifty-percent tincture!

Still another way. Here is another beautifully complex organism vulgarly known as a porker. Along comes man, ruthlessly tears down this complex but perfect handiwork, shamelessly selects the parts that *he* thinks the most edible, and in his childlike ignorance offers these to the consumer as food par excellence.

This, of course, is jumping rather suddenly from the realm of medicine into that of food. But our critic himself sets the example. "If," *he* asks, "caffeine is *the* active principle

of coffee, and represents the full virtues of coffee (as some manufacturers claim), why do people drink coffee? Why do they not sip a solution of caffeine?"

Ah, there *he* has us! By the same token, if, as some claim, alcohol is *the* active part of champagne, why do people drink champagne? Why do they not take fifty-percent alcohol? We confess we don't know—unless (brilliant thought!) the public possibly has an unaccountable prejudice against the *taste* of caffeine and grain alcohol and in favor of coffee and champagne?

Honest Injun, now, isn't it all arrant nonsense? Nature didn't furnish man with his drugs for the cure of his diseases, any more than *she* furnishes him with steel girders for his bridges or carpets for his floors.

*All that man has obtained from nature he has wrested from her by the exercise of his own observation and reason and ingenuity* by this very process of "ruthlessly tearing down her complex yet perfect handiwork," which our critic finds so blasphemous, and appropriating this and that "which *he* thinks is the most important"—or useful. According to our critic's argument, we had better all go back and eat herbs and live in caves and clothe ourselves in skins.

The active-principle position has been stated, and restated, and (as Kipling would say) "tre"-stated, until it really is superfluous to state it any more. It negates nothing, belittles nothing—not even the virtues of the whole drug, *in their place*. It simply takes sensible cognizance of the unquestionable virtues of the single principle, its growing field of therapeutic usefulness, its vast superiority over the crude drug, wherever it can be used, in accuracy, definiteness, and convenience, and the manifest advantage, wherever the active principle is indicated, of separating it from those other constituents of the plant "given it by nature for a purpose no man has yet been able to fathom."

What do *you* think about it, Doctor?

#### THE WAR AGAINST BOOZE

"The liquor cranks are excited," remarks *Collier's Weekly*, "because the 'antibooze agitation threatens 'properties valued in the aggregate at perhaps \$2,000,000,000.' It may comfort them to reflect that this 'perhaps' total of theirs is almost exactly one-ninety-fourth of the estimated wealth of the United States. But it causes an altogether disproportionate part of the total crime, disease, suffering, and waste with which our

country is afflicted. The rest of us pay mighty heavy taxes in all these ways to keep up their 'values.' Booze wealth is the most selfish, tyrannous, and wooden-headed form of property known to our civilization, and it ought to be possible to scale its fraction down (and out) with perfect safety and great gain. Why should a minor interest be a major nuisance?"

When a great popular magazine like *Collier's*, which depends for its existence upon the approval of "all sorts and conditions of men," comes out boldly on the side of the "antibooze agitators" it means that the nation is becoming morally awake at last. The booze colossus is fighting for its life, as witness the futile effort to secure the passage, by the late Illinois legislature, of a bill to reimburse the liquor interests for the properties destroyed by local option in this state—also, the feverish (and humorous) activity of the booze literary bureaus, now spending millions to prove that "prohibition does not prohibit!"

Does not life go down with a better grace, foaming in full body over a precipice, than miserably struggling to an end in sandy deltas?—Robert Louis Stevenson.

#### A NEW SERIES BY DOCTOR ROBINSON

We have just arranged with Doctor W. J. Robinson, for publication in *CLINICAL MEDICINE*, of a series of articles upon "The Diseases and Disorders of the Prostate Gland, and Their Nonsurgical Treatment." The first instalment will appear probably in our November issue, and they will run continuously, as a special feature, for six months, and possibly longer. The articles will be fully illustrated, and will contain "the last word" on the subject of prostatic disease. They will be of special interest and value to the general practitioner, because they emphasize the nonsurgical treatment, while the average textbook discussion is written solely from the standpoint of the surgeon.

This is one of the most interesting series we have been able to announce for many months. It represents the first phase of our program for 1915-1916, further details of which will be announced in forthcoming issues.

*CLINICAL MEDICINE* keeps on growing. We are constantly striving to make it better—because more helpful. Suggestions from our readers always are appreciated, and we are particularly anxious to learn just what they want. Let every member of the "family" make it his special business to offer his sug-

gestions, and, best of all, something of personal, practical, clinical help that will look well in print.

It's up to you!

#### BUILDING AS RELIGIOUS EXPRESSION

Accustomed, as we are, to revere the traditions of the Old World, the destruction of Europe's ancient fanes comes to us with a shock that probably is much greater than that felt by the inhabitants of the stricken communities. We Americans look with reverent awe upon the glories of St. Mark's. We appreciate the religious fervor expressed in its construction. To us, every statue, buttress, tower, minaret, and spire tell the same story they did to the builders. From the dead centuries, these structures speak to us of the devotion of the men who battled for the Cross and held back the Crescent. But the descendants of the Iscari sprawl on the marble pavement and "clash their bruised centesimi" in the Venetian version of craps-shooting, regardless of the venerable temple rearing its storied walls about them.

The same devotional sentiment exists in the hearts of the men of today—but, what a different form its expression assumes! We read that Columbia College and the affiliated Presbyterian Hospital are joining in an expenditure of \$7,500,000 on buildings. These include an administration building, one to house the medical sciences, the Crocker Cancer Research Laboratories, a school of sanitary science and public health, a hospital, the Vanderbilt Clinic, including the outpatient department, dormitories for 400 students, with dining-hall, a training-school and home for nurses, with provision for the Sloane Hospital and other institutions that may unite with the associated group.

Modern Christianity is not dead. It never was more vital. It simply has shaken off medieval traditions and scholastic dust and set itself to study modern needs and adapting itself to existing conditions. It drops the discussion of tenets, the delimitations of creeds; it abstains from mucking among the dry bones of a dead past and reasserts its place in the present. Again it becomes the potent force in checking the grasping, selfish principle, and is developing the altruistic sentiment that has been the living, vital force in every religion that has won the hearts of men. To educate the ignorant, to enlighten the blind, to protect the weak and raise the down-and-out, to modify greed by love for humanity, to restrain the rule of force by

that of mercy and justice are the purposes of the Church of today.

These, followed intelligently, will bring the world again under the Cross, or, rather, into that wider faith that embraces every faith, and which teaches, as its fundamental principle, the Rule of Love.

"Where there is no vision the people perish." Then spake the wise old clock-maker. "A vision," quoth he, "is something good and lofty and desirable which the soul may see, and having not may reach forth to obtain. Without a vision the body may live, but the soul is starved. It is life in death."

"Where shall I seek?" asked Anton. "At thine own work-bench," was the answer. "Do thy daily work, Anton, and let thy vision find thee working. Then shalt thou be ready to receive it, and the meaning of thy life and work will be made clear to thee."

—Walter A. Dyer.

#### KOCH'S THEORY OF SEASICKNESS, AND CORRESPONDING TREATMENT

The subject of seasickness was discussed in these pages quite exhaustively only last summer; nevertheless, in view of the still controversial state of the problem, any contribution promising to throw more light upon the etiology as well as rational treatment of this troublesome affection should prove welcome; the more so, as ocean-travel is fast increasing among all classes of society, among whom medical men themselves constitute not a small contingent.

With the rapid growth and spread of relative wealth among the masses and ever more individuals finding their economic situation comfortable, we see an extension of international congresses and other gatherings on a large scale, and journeys to overseas lands for mere pleasure, in the quest of health, or with a view to broadening education; but, this draws numberless persons peculiarly susceptible to attacks of naupathia, because their mode of life and, largely, their sex has made of them more or less of vagotonics.

Prominent in this category of sporadic travelers are the thousands of well-to-do women, those exhausting their vitality in industrial life, and, not least, the numerous members of the teaching profession. And it is these very individuals, the more refined and sensitive subjects, who suffer most acutely and call for sympathy, many of them even being deterred from undertaking these wholesome and socially useful journeys by their dread of the exhausting ordeal.

One of the favorite notions about the causation of the symptom-complex grouped as "seasickness" and "carsickness," or, techni-

cally, as naupathia, is, that a disturbance, with consequent irritation, of the vestibular apparatus of the ear, and undue commotion of the contents of the semicircular canal—the organ of equilibration—gives rise to a connected series of reflex phenomena.

More recently, Bruns has sought to establish this theory through laboratory experiments (*Med. Klin.*, 1914, No. 26), by whirling the subjects around upon a rotating seat and observing the physiologic effects produced. As one result, Bruns attacked as utterly untenable and undemonstrable the supposition, promulgated by Sanitary Councilor Franz Koch, of Bad Reichenhall, to the effect that one of the principal factors is, the mechanical disturbance of the abdominal viscera.

In a communication to the *Therapeutische Monatshefte* for October last, Doctor Koch essays to answer Bruns' objections, at the same time rehearsing his own theory, and his treatment based thereon; stating in his introduction that his interest in this problem was aroused when in 1891, on a small ship, he passed through a furious five-day storm on the North Sea. Subsequently he published the result of his cogitations and experience in the lay press (e. g., *Augsburg Abendztg.*, 1905); but his expositions failed to attract the attention of the medical profession.

In view of more recent agitation of this subject, Koch feels justified in resurrecting from its paper tomb his previous contention; freely admitting at once that, of course, the equilibration-organ must not be excluded from the calculation. And this is his position:

As the ship rolls and performs tortuous movements to and fro and up and down, the rigid body of the passenger follows these undulations; on the other hand, his loosely attached organs, that is, the intestine and stomach, and other organs of the abdomen (but also in less degree the heart and brain—the lungs being firmly encased) naturally will lag somewhat behind in these pendulations, and, so, at rapid intervals will come into forcible contact with the abdominal wall and the epigastrium as the two latter suddenly assume their return movement. Furthermore, this inertia of the movable organs, in the face of the rapidly changing proper motions of the body, needs gives rise to a stretching and wrenching of the tissues with their innervation, which in turn produces an unwonted irritation of (more particularly) the abdominal vagus nerve. The well-known

naupathic symptoms are the consequence: nausea, sialorrhea, pallor, chilliness, vomiting, and at times diarrhea.

That irritation of the vestibular apparatus may, and does, constitute an important factor in producing this clinical picture is not denied by Koch; for, the vertigo as a frequent concomitant feature directly points to involvement of the semicircular canal—which controls the sense of equilibrium—and, so, greatly disturbed under the circumstances.

To the foregoing must be added a similar direct irritation of the cortex of the cerebrum, and possibly also, as suggested by the headache, of the meningeal coats; this super-excitation soon resulting in a sort of paralysis of the cortex, which condition finds expression in the complete apathy and listlessness of the subject. Further, the author agrees with Bruns as to the important influence exerted by the sense impressions from without, more particularly visual ones, everything round about being in motion, the water, masts, objects on the ship, the pendulating human beings; but also the various disagreeable ship's odors may contribute. The entire *milieu*, in fact, is calculated to convey unwanted visual, and auditory, and olfactory impressions; however, we need not follow the author in his detailed enumeration.

One must likewise consider the purely psychic processes capable of originating some of the naupathic symptoms; for example, fear (diarrhea) or the sight of a seasick person (psychic "contagion"). All these various phenomena can be seen duplicated on firm land when one is in the swing or a lift, as well as during earthquakes, or, perhaps, when watching a ropewalker. Always presupposing, of course, that the subject is a vagotonic, according to Fischer's notion.

#### THE MANAGEMENT OF SEASICKNESS

Dr. Franz Koch (loc. cit.) feels tempted to distinguish two types of naupathia, an abdominal—the more common one—and a cranial; which, of course, more often perhaps than not occur in association, although with one of the types dominating. At the same time it may be pointed out how certain of the leading phenomena, notably the headache and the tendency to vomit, may result from an irritation either of the semicircular canals, of the cerebral cortex or of the abdominal vagus nerve. It is the latter form which is particularly amenable to therapeutic measures. But here again, in the support of his own position, Koch emphasizes the fact

that never can Bruns' revolving seat imitate the ship's condition implicating the sympathetic nerve-system of the bowels; nor can it produce the sensations when, in an elevator, one drops some 2000 feet in the space of three minutes, and he is impelled to draw the abdomen spasmodically and press it hard with both hands, in order to mitigate the sudden pressure (through the aforesaid lagging) of the intestines against the diaphragm, to avert an acute attack of "seasickness." This is as true as that a mechanical "horse" of the institute never can supplant the ride in the open on a flesh-and-blood horse.

From the foregoing premises, the symptomatic as well as preventive treatment follows logically, and, in principle, is simple. As Doctor Koch on many trips on the turbulent North Sea has had occasion to observe, the irritable condition of the vagus nerve can be allayed or at least measurably reduced by mere compression of the abdomen. All one need do is, to draw up the legs, embrace them with the arms and then press them hard against the belly. In this manner one always can, at any rate, prevent throwing-up. As a result of these observations, Koch had constructed for him a girdle, or bellyband, which he now always wears on his numerous sailboat excursions.

This corsetlike girdle consists of stout sailcloth, exproxiately 20 cm. broad in front and 12 cm. in the back. By means of straps and buckles, it is drawn firmly around the abdomen. This prevents the tossing of the abdomen-contents. Another help is, the well-known expedient of lying prone on the back; to which he adds the injunction that the head be slightly elevated and fixed between firm pillows, even steadying the entire body similarly. Of course, a centrally located cabin is an advantage. Whenever practicable, the patient should have his cot on the open deck, to breathe the fresh air and evade the nauseating odors of the ship; however, he should keep his eyes shut or covered, so as to exclude the sight of the dancing waves and masts. Assuring words from the doctor are aids, of course. That large vessels are preferable to small ones needs no emphasis.

Besides the casual recommendation, that the patient partake of a little biscuit or cakes, with a trifle of red-wine, the foregoing extremely simple measures, the author avers, generally suffice to control or at least minimize attacks of seasickness until habituation, as he repeatedly has demonstrated in his own person as well as in others during severe protracted storms; the period of habituation

depending upon a person's nervous organization and laxness of the mesenteric suspension. While his method has been popularly practiced more or less for a long time, still, the author commends it for verification by physicians with nautical experiences, no matter how slight.

Strangely enough, Doctor Koch winds up by expressing doubt about the possibility of a direct cure of seasickness, and, so, mentions no medicinal therapy. He may, possibly, attach a special meaning to the term "cure"; however, readers of CLINICAL MEDICINE are aware of certain courses known to give great relief or even affecting a cure for the trip, the leading indicated remedy being atropine. In this connection, we refer to the articles on this subject printed in last year's volume, on pages 429 and 759 (May and September issues), discussing Fischer's vagotonia theory and the management of seasickness.

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If you are a poet or a preacher, a duke or a doctor, or just a plain, everyday family man or housewife, you have opportunity enough to glorify the day's work by adding unto it a vision. Then you will try to do good instead of merely maintaining a pastorate; you will deliver a message to the world instead of merely acquiring poetic laurels; you will save lives instead of merely building up a practice; you will make a home happier instead of merely paying off a mortgage. This is what I mean by working with and living by a vision. Thus only may you grow and enrich your life and that of many about you. "Where there is no vision, the people perish."—Walter A. Dyer.

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#### PROSPERITY—LET US MAKE IT OUR OWN

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Europe is insane. Teutonia declares she makes war to render her neighbors incapable of ever again attacking her. If that does not mean conquest and dominion, what does it mean? The Allies say, they will fight until the menace of German militarism has been destroyed. Ditto, ditto. Well, the only thing possible is for them to fight it out.

Neither is overparticular to keep some of the blows from falling upon us; and we are vulnerable, in that the American globe-trotters pervade the world, hiking through highways and byways on business or on pleasure bent, so that one scarcely can find a spot where he does not run against a countryman. Then, Young America, being naturally peaceful, dearly loves a scrap; and, as we all like to brag about our ancestors, we see Billy Williams in an English aeroplane taking potshots at Gus Meyer driving a German automobile, notwithstanding they were chums at high school.

The wealth of Europe is liquidating into war-material by the billion. A half-century of peace—comparative—has crowded Europe's area with men and her storehouses with goods. Billions of non-European securities stuff her strong-boxes. Now she is having a potlatch, and in the wild orgy all these accumulations of treasures and of men are being dissipated.

Europe is insane, indeed.

And America watchfully waits.

Our doors open wide for the welcoming reception of all who chance to escape from the maelstrom. Our chicks who won't be gathered under our wings must take their whacks. Our bounteous harvests go to feed the warriors and the victims of the war. Our factories ring with the din of supplying the needs of war and of peace; for, all the multitude of products needed by the men now fighting we are called to supply. Our surplus of horses, food-animals, the wheat of the Northwest are in urgent demand. If the miners of Wales face the foe in Belgium, Pennsylvania can supply the coal. Even though the fair vineyards of France are trampled under the feet of struggling millions, the wines of California find their chance of introduction to the palate of the epicure. In every department of human industry, Europe's workers have dropped their tools, to take up the sword, and America is called upon to do their work. Floods of Europe's money and securities are pouring in to pay us.

It is our opportunity.

Every American dollar should be made productive. Rush up new factories. Secure every available workman. Make every acre produce every bushel that can be gotten out of the soil. Get out every pound of metal our mines can yield. Let the fields of our industry show the same intense activity as Europe's battle-fields. Don't worry about overproduction. Every pound of cotton stored in the South is needed abroad; but it should go there in yarns, in cloths, in clothes, ready for use.

Don't say or think we seek profit from Europe's misfortunes. We are alleviating the miseries of war; supplying the necessities their workers fail to provide. We are making ready to care for the broken millions who will swarm to our shores when the war ends. Possibly we may have to face a nation that has won the hegemony of Europe and sees none but us standing between it and the domination of the world. Science will bridge our 3000-mile moat; the Atlantic will not always relieve us of the duty of bearing arms. Our century of secure isolation is at an end.

The trade of three continents invites us. Europe has no time to attend to Asia, Africa, and South America, other than to draw supplies from them. We must meet their needs, ourselves. Trade requires traders, goods, and ships. Let us supply them. When the fighters are exhausted, they will seek to regain this trade, but some of it will remain in our hands—how much, will depend upon ourselves.

Every bit of brain-power, every fiber of muscle, every acre, every dollar finds seed for employment now. And such prosperity shall follow as the world has never known.

Who helps to keep all ills away?

The doctor.

Who waits the longest for his pay?

The doctor.

Who knows you from your very birth,  
And keeps you hanging round this earth,  
However little you are worth?

The doctor.

#### THE DOSE OF CALOMEL

What's the dose of calomel? Suppose that query is popped at a candidate by some astute state board examiner—the boy could scarcely make a wrong answer or one that he could not fortify with authority. The tablet-makers list doses as low as 1-100 grain; yet, a Tennessee friend tells us that to children with fits he administers a table-spoonful of calomel every fifteen minutes!

The question might be amplified by shortening it to: What's a dose? The correct answer could be, "As much as may be necessary to produce the desired effect." Taken in this sense, the candidate might return the Yankee retort, "For what purpose?"

We have had no personal experience with the 1-100-grain doses; but, to stop vomiting and allay nausea, I have given 1-20 grain every five minutes, with satisfactory results. Then there is a certain combination of 1-10 grain calomel with a trace of aromatics, in a tablet that surely has brought peace to armies of children with disturbed digestion. So many occasions arise in the work of the family physician for the use of these little "pink pills," that they come to be very familiar standbys with him and his little friends. We don't believe in calomel-doctors, any more than we do in whisky-doctors, quinine-doctors, opium-doctors or any other rutty, one-idea routinists; but, of the lot, we'd take chances with the one who props open the sluice-gates and lets the meanness out.

One of the unavoidable routines is that of emptying the bowels; and to the man who has realized that this means something more than the careless suggestion to "take a physic" the use of calomel is a matter of course.

The oldtime rule was, "ten-ten"—10 grains each of calomel and of jalap. Wunderlich determined that from 10 to 20 grains of calomel, administered early, favorably influenced the course of a typhoid fever. A note in *The Medical Summary* disclaims aught but such doses for adults, and 2 to 3 grains for children. Many doctors habitually premise treatment with 1-6 grain each of calomel and podophyllin, repeated half-hourly for six doses and followed by a saline laxative.

Studying the reports from all these classes, we see that they all "get there" and accomplish their object. The saline chaser is essential, no matter how large the primary dose of calomel. Results from the repeated 1-10- to 1-6-grain dose have been so satisfactory that those who try it generally adopt that method. Why use more than is really needed? The little doses are easy to take and certainly appear to loosen the material subsequently swept out by the saline. Some of us think we go a step farther, and omit half a centigram of bellyache when we give 1-12 grain of podophyllotoxin with 1-6 grain of calomel. But each one of us may remark to himself—"My way is best for me."

#### INTESTINAL MALADIES

No system of managing infants is fool-proof. The most elaborate rules, the most perfected methods are useless when their application is left to careless or ignorant persons. This writer once attended a baby who had summer complaint. He laid down the law as to the care and the preparation of the child's food; two days later the babe died of cholera infantum. A few hours before its death, the doctor was looking the sick child over, when the nurse raised its head and began to give it milk out of a teacup. The milk would not run—it had soured into a mass.

Municipal supervision of the dairies, dealers, distributors, and the milk itself saves many a life by making people do what they ought to do without compulsion. Municipal sanitation removes the filth, the nidus in which disease-germs generate, and it lessens the dangers of city life in summer; but such measures can not supply the vital principle that the child gets from life in the country: the benefits accruing from two months'

strenuous rest in the open carry the individual through the remainder of the year.

But, we cannot all get the summer's freedom, and, so, it behooves us to reduce the baneful influence of the dog-days in town as much as possible.

Swat the fly, cover, burn or kerosene its fecal breeding-places. Dry or kerosene the mosquitoes' incubators. Rid the premises of germ-carrying insects of every sort.

Select sound, clean food, and pay for purity. Don't be misled by guarantees. The canned milks bear the factory guarantee of being pure and sterilized. One brand is "guaranteed" under the Pure Food and Drugs Act to consist of pure milk and nothing else. The labels on the others tell no lie, but they say nothing about the admixture of corn-starch and other material. Jellies consisting mainly of apple are not unwholesome or fraudulent, if you are willing to allow for the additions in view of the lower price made possible by such mixture. The new regulation promulgated by the Health Commissioner of Chicago, with the aid of the dealers, provides for the protection of exposed foods, and other edibles not usually washed, and, with that, a great source of danger has been removed. Do you ever think of the things to be found in street-dust, and how much of this windblown dirt clings to such foods displayed on stands and before groceries? Yes, it is well to wash carefully all plant-foods when they are to be eaten uncooked.

Be sparing of meats, yet, not wholly vegetarian. Keep the beans for winter; milk, eggs, fresh fruits, vegetables, and cereals give enough nourishment without overloading the system. You cannot give adult or child too much of the citrus fruits—oranges, grapefruits, lemon-juice.

Here is the most important rule of all—watch the stools carefully, and, at the first sign of looseness, paleness, fetor, undigested food or other abnormality, flush the alimentary canal with a mild saline laxative and administer a few doses of a harmless antiseptic. The sulphocarbolates are safe, effective, and easily taken. Sometimes the child escapes surveillance and gorges with forbidden food—then, where is there a remedy to equal ipecac? Give a little emetoid in warm water, and the whole alimentary tract returns to its duties. Would that the virtues of rhubarb could be put into such shape that hypodermic administration were possible!

Keep the bathtub full, also encumber the children with clothing as little as possible.

Why be too hot, when the tub is handy and the lake inexhaustible? Give them a chance, and children soon become amphibious.

Backward, turn backward, O Time, in thy flight,  
Make me a graduating M. D. tonight.

Let me retail all the knowledge gathered during the years, but give me the strength and freshness of youth and the possibilities opening up to it. How I would clean up the house, vicinity, and bowels; how sedulously I would watch for the earlier symptoms of coming disease, how carefully I would instruct the parents. My proudest boasting should be of an organ saved, not deftly abstracted; of the health continued, not disease cured; of normal mental and physical development, not pathologic processes detected.

Since "the sunset of life gives us magical love," why can't we transmit it to these young men just starting!

Close the covers and turn the key  
(We're off to the woods tonight!)  
Laden the table and desk may be,  
(We're off to the woods tonight!)  
But time for changing the lure of books  
For the forest green and the woodland nooks,  
The babble of print for the babbling brooks—  
(We're off to the woods tonight!)

#### THE SULPHIDES IN TUBERCULOSIS

A few years ago *The Medical Record* published a very remarkable paper. It was from the pen of Doctor Ussher, a medical missionary, and described the results of his treatment of typhus, variola, and scarlatina by the use of calx sulphurata (U. S. P.). The results were astounding, so much so as to be beyond belief to many readers unfamiliar with the drug and the literature upon it already extant. Yet, the quiet, temperate tone of the paper, the evident sincerity of the writer, and his simple, unaffected piety disarmed criticism, so that but little appeared in the medical journals in the way of adverse comment.

Now we have another report on calx sulphurata, from another medical missionary. And here let us say that no class of men have done more to advance the honor of America and of American science among the people of other lands than have the medical missionaries. Those devoted men and women have demonstrated in every quarter of the non-christian world that the new world is ready to repay the debt it owes the races from whom its civilization originally sprang. We now return our talent with usury.

Doctor Henderson (*Med. Record*, June 12, 1910) heads his report: "A Rational and Successful Treatment for Pulmonary Tuberculosis." He adverts to Prof. W. H. Thomson's assertion, that it was the combination of the tubercle-bacillus with pyogenic bacteria that made it so deadly. If taken alone, the forces of the body had a fair chance of overcoming the former enemy.

Since Ussher's article appeared, Doctor Henderson has had experience confirming the view that calx sulphurata possesses the power of controlling pus formation. He tells of three cases of pulmonary tuberculosis and one of pulmonary abscess treated with calx sulphurata, 6 grains daily, and codliver-oil and creosote being used as adjuncts. The benefits were too marked to be accounted for by chance or by psychologic influences.

Doctor Henderson does not offer his remedy as in any sense antagonizing the tubercle-bacillus, but merely as cutting off its most dangerous auxiliary. Hence, the use of remedies directed against the tuberculous invasion, such as creosote, and against the emaciation, such as codliver-oil. That no such rapid benefits follow the use of these without the sulphide is well known.

The doses named were continued indefinitely, with "absolutely no effect." With excellent judgment also, after preparing his paper for publication, he kept it back for eight months before forwarding it to the journal.

More details will be found elsewhere in this issue.

No possible good can come from telling your remedies to your patients, nor do the laity receive any benefit from talking over the remedies in their back yards.

—Dr. J. B. Woodhull.

#### FINE CONSTRUCTIVE HEALTH-WORK

We have just learned from our friend Dr. Oliver J. Miller, of Sanford, Florida, that the legislature of his state passed an act providing for thorough medical examination of all school-children of that state, including those of the rural schools, such examination to be made under the direction of the state board of health. The law also provides for a sanitary survey of all school-buildings and their surroundings.

This bill was written by Doctor Miller himself and was introduced into the house of representatives by Hon. Forest Lake, Sanford, and handled in the senate by Senator Arthur E. Donegan, Kissimmee. Its passage was

due mainly to the efforts of these three men; they not only got the bill introduced in the legislature, but brought it to the attention of prominent educators and sanitarians, largely by correspondence. It is a great triumph won, for which Doctor Miller and his colleagues deserve much commendation.

Unfortunately, it has been found extremely difficult in most cases to secure the passage of legislation of this kind, which nearly always is opposed by the antivivisectionists, anti-vaccinationists, the Christian Scientists, and the drugless healers of every description. These people, in their ignorance and prejudice, have succeeded in blocking the wheels of progress, and in so doing they are responsible for the sacrifice of thousands of lives. It is high time that the State took a more active interest in the health of its children; it certainly is not exceeding its authority in so doing. No one thinks of opposing the enforcement of laws dealing with the sanitation of slaughter-houses, barns, and stables. Why, then, should anyone oppose the demand that the State safeguard its children by a proper regulation of school-life?

#### MEDICAL-PRACTICE LEGISLATION— IS IT FAIR?

No one has a livelier regard for the principle of medical liberty than we; nor, we think, has anyone been more frank and outspoken in defense of that principle. Indeed, our frankness has not infrequently drawn upon us the criticism of our readers and of our contemporaries in the field of medical journalism. Hence, it may well be imagined that, while we represent the side of the medical profession in all matters of dispute between it and the public, yet we have a good deal of sympathy with the public standpoint, especially where questions involving liberty of thought and action are at issue.

For example, we have frequently expressed our opinion that the prevailing system of state medical licensure is neither the wisest nor the best method of regulating the practice of medicine. But it does not, therefore, follow that we can swallow all the specious sophistry that finds utterance in the protests of the various healing cults and their followers against the legislation which provides for such regulation. We beg to point out to these enthusiasts in the cause of so-called medical freedom that their arguments, as generally presented (and they are about the same wherever one meets them), contain some fundamentally erroneous premises which

vitate the conclusions ordinarily drawn from them.

We are asked, for example, to consider the injustice of a legislative enactment which compels a free-born American citizen to seek the medical service of a certain class of medical practitioners, under penalty of fine or imprisonment. So far as we are aware, there is no law on the statute book that compels any such thing. So far as we are acquainted with the medical-practice acts of the country, they refer not at all to the person seeking medical service, but altogether to the individual who offers and renders the service. We are perfectly aware that the rejoinder to such a statement will be that one condition amounts to the other. If none but "regular" practitioners are permitted to practice, then the public is, *de facto*, compelled to engage the services of a "regular" practitioner or go without.

Perfectly true, if that were, indeed, the case. But the fact is, no medical practice act has anything whatever to say about the system or school of medicine which its licensees shall practice. Its provisions relate wholly to qualification and preparation—to *fitness* for practice. Having fulfilled these stipulations as to preparation and fitness, there is nothing in a medical-practice act to hinder a physician from practicing any sort of system he chooses. To be sure, there is always the possibility of his having to justify his practice in a court of law, but that is a contingency which pertains under the common law, not under a medical-practice act, to every practitioner, not to any particular school of medicine.

It is surely very unreasonable on the part of our health-cult friends to object to a legislative requirement that the practitioner of an art pertaining to the human body be thoroughly educated in all that belongs to the structure and conditions of that body, in health and disease, whatever system of therapy he may purpose applying to the latter. It is surely splitting hairs to repudiate all the rest of the curriculum of a medical education for the sake of this one branch. Every applied science has these elastic phases. An engineer is permitted individual freedom in these elective matters after he has demonstrated his general knowledge of the construction and care of engines. And this is all the state requires of the physician. There is nothing to interfere with liberty of individual creed and practice.

The test of the matter, after all, is in the results. By their fruits ye shall know them. What has been done by the "regular" school

of medicine, against which the appeal to medical freedom is so vociferously invoked? And what are the achievements of the various cults and isms which would supplant the medical profession? One cannot help recalling the dignified and convincing rejoinder of the late William James to this same specious whining about individual freedom in matters of applied science:

"When one turns to the magnificent edifice of the physical sciences, and sees how it was reared; what thousands of disinterested moral lives of men lie buried in its mere foundations; what patience and postponement, what choking down of preference, what submission to the icy laws of outer fact are wrought into its very stones and mortar; how absolutely impersonal it stands in its vast augustness—then how besotted and contemptible seems every little sentimentalist who comes pretending to decide things out of his private dream."

If our irregular friends would evince a little more disposition to vie with the regular medical man in his painstaking study of the *essentials* of his calling, their "conscientious" differences of *opinion*, in the matter of treatment, would command more sincere and serious attention.

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O summer day beside the joyous sea!  
O summer day so wonderful and white,  
So full of gladness and so full of pain!  
Forever and forever shalt thou be  
To some the gravestone of a dead delight!  
To some the landmark of a new domain.

—Henry W. Longfellow.

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#### THE MODERN PHYSICIAN

Modern sanitary science has notably prolonged the average of human life. However, this result has been attained by favoring one extremity at the expense of the other; for, while the average life of infancy and early childhood has been lengthened greatly, fewer individuals live to the high age of former times, the mortality between the ages of forty and sixty having actually increased. The fact that relatively more people die soon after arriving at forty, and proportionately fewer live to the age of seventy and eighty, probably is to be attributed in large part to the constantly increasing strain upon the nervous system, caused by the growing intensity of the struggle for existence, for preeminence, for wealth, as also to the rapidly growing craving for luxuries and excitement. The human mind is adopting new methods and habits, forming new

ideals. We are living swifter, harder, more strenuously than ever before. Strenuousness is the ideal, and its great apostle the idol of the active world of today, of the men of affairs, the movers, the people who do things.

Who cares nowadays for the Gauls or the Carthaginians? Who bothers over the works of Cicero? Marconi and d'Annunzio come to our thoughts when Italy is mentioned, and Greece speaks to us of a Constantine now living and acting. Who meditates now? Who thinks? Who reads, studies, contemplates, makes researches into the past, cultivates literature, art, archeology? Who cares a doit how many angels can dance upon the point of a needle? Today, now, here, we ourselves are the topics that command our attention, engross our thoughts. We are in the whirl and turmoil of a mighty flood, pulling and tossing in all directions, bumping up against the wreckage of men and things, demanding the instant and incessant output of every atom of power at our command to keep our heads above water. Perchance we may grab and bring together enough of the floating debris to form a raft capable of supporting us if we can hold it against the snatching hands of other strugglers. If by chance we are swept out of the current into a quiet eddy—behold, we are a back number, forgotten, the active world of men knows us not.

Under the laws governing evolution, it should take a century at the very least to develop the human brain and body so that it may withstand the increasing strain of a lustrum. The man unconsciously seeks to meet the changing conditions by utilizing the resources at his command—he hastily swallows the foods most readily converted into force. He leaves the conversion of vegetables into animal tissue to the ox and the hog, and takes into his stomach the concentrated quickly assimilable flesh. He hasn't time even for this, and, so, sustains his waning energy with strong coffee, tea or alcohol. He quiets nature's protests by means of tobacco and opium.

The results of all this unnatural living are before the physician in the form of the worn-out, exhausted, deranged brains, kidneys, livers, hearts in multiplying numbers; and the problems these pathologic conditions present are based upon the ways of modern life. We are conducting junk-yards filled with the wrecks of decaying humanity.

However, we physicians are part and parcel of the race, are subject to the same influences, living the same life. We have

deserted the quiet, thoughtful way and taken up the swifter methods of the present. And what has it led us to? Just this: For every smallest possibility of its application, we present as our remedy—what? The knife! Our invariable prescription reads, in slang phrase, "Cut her out." And whenever we have devised a new operation, we seek justification for applying it, instead of studying a given situation and thinking out a remedy to meet it, as we should. The curious thing about it all is, that this procedure is directly the opposite of the course plainly indicated.

However, the man of affairs, the strenuous one, can not afford to take time to have his appendix removed, his thyroid gland enucleated, his intestinal kinks straightened, his kidneys decapsulated, his floating viscera anchored; he can not afford to be ill or to be away from his work a single day. Unmistakably his need is, to be kept well and in the best possible condition for work. He needs a thoroughly competent physician, a diagnostician, a sanitarian, a man so versed in human physiology that he can detect the earliest deflections from normal functioning of the body, recognize the fault in the smooth working of the machinery, ferret out the cause, then proceed to remove it and to restore physiologic equilibrium. He must give the man that study and care, that hygienic regulation that the man cannot give himself, but, yet must have in order to hold his working-powers at the highest point compatible with continued life and health.

A few multimillionaires have adopted this system. We read of Rockefeller playing golf with his house-physician, of another rich man tramping the Rockies with his doctor, and of many other instances where physicians are employed to guard the health and preserve the strength of men of affairs. The constant companion of our president, the one man who is with him continually, and in whom he confides, is an army surgeon, Doctor Grayson. There is no reason why every family should not be thus cared for and protected, and when society adjusts itself to the demands of the future, "after the war," we shall see—if we live long enough—something of this kind.

Every doctor may become a competent, qualified sanitarian, and we have almost enough properly to care for all the people. What a proud boast it will be for the doctor who can say: "I have not had a case of illness in my clientele during the past year; not a day has been lost from work by disease; not a call for my services has been made except because of accidental injury."



PHOTO BY INTERNATIONAL NEWS SERVICE

SIR THOMAS LIPTON, ON BOARD HIS YACHT ERIN, WHICH IS NOW USED IN RED-CROSS WORK.  
THE LADIES ARE MISS CALDWELL AND MISS HUNT, PROMINENT IN RED-CROSS WORK.

## Pictures Which Will Interest Physicians

SIR THOMAS LIPTON has taken a very active part in the relief work in Serbia. He turned his yacht, the *Erin*, over to the Red Cross, and has devoted his personal efforts to this humane cause. He speaks in highest praise of the American Serbian relief expedition, under the direction of Doctor Richard P. Strong of the Harvard Medical School. As a result of the efforts of this group of courageous young American physicians and

nurses (a number of whom have lost their lives) the typhus epidemic is said to be nearly under control.

Another American who is helping solve the typhus problem is Dr. Harry Plotz, of the Mt. Sinai (New York) Hospital staff, who has isolated the bacillus typhi exanthematici, the cause of this disease. Doctor Baehr and Doctor Olitsky collaborated with him in this work, and a full report of their



PHOTO BY INTERNATIONAL NEWS SERVICE

DR. HARRY PLOTZ, DISCOVERER OF THE TYPHUS GERM, AND HIS CO-WORKERS, DR. GEORGE BAEHR  
AND DR. PETER K. OLITSKY. DOCTOR PLOTZ STANDS AT OUR RIGHT,  
DOCTOR OLITSKY IN THE CENTER.

investigations is published in the July number of *The Journal of Infectious Diseases*. The picture shown above was taken on the S. S. Themistocles, when Plotz and Baehr sailed for Serbia to join Doctor Strong's expedition.

A description of the typhus organism discovered by Doctor Plotz was published, editorially, in the June number of *CLINICAL MEDICINE*.

On the next page will be found, first, a picture of a group of American nurses. Many young American women, including not a few from Chicago, are serving with the armies of the different nations engaged in the war.

The succeeding picture is of special interest in view of the terrific drive being made by the German armies in Poland while these lines are being written.



PHOTO BY INTERNATIONAL NEWS SERVICE

AMERICAN NURSES SAILING FOR DUTY IN FRANCE. THESE YOUNG WOMEN ARE FROM THE FRENCH HOSPITAL IN NEW YORK. THE PICTURE WAS TAKEN ON BOARD THE S. S. TOURAINE.



PHOTO BY INTERNATIONAL NEWS SERVICE

WOUNDED GERMAN SOLDIERS, JUST ARRIVING AT A FIELD HOSPITAL IN POLAND. SOME OF THE MEN ARE BROUGHT IN ON THE BACKS OF THEIR COMRADES.

# Leading Articles

## Belladonna and Its Alkaloid

When to Use Them and How to Use Them

By FINLEY ELLINGWOOD, M. D., Evanston, Illinois

Editor, Ellingwood's Therapeutist; author, "The Eclectic Practice of Medicine" and "Materia Medica, Therapeutics and Pharmacognosy"

**I**N THE acquisition of an exact knowledge of every practical fact concerning the action of drugs, every practitioner of medicine realizes that there is too little study of the physiological influence and altogether too little knowledge of the clinical action, in its minute detail, of the individual remedy. We depend too much upon generalities. Many of us accept the necessarily brief statements of pharmacists concerning the action of drugs, and these are usually based upon empirical observations only. The physician can make a personal investigation of the specific influences exercised by only a few remedies.

It has been by lot, in the last forty years, to study many remedies alone, in their action, and to observe closely their direct, immediate, and positive action, and all their side-influences. By this means, there has come to me a knowledge that seems to me of such value that I am constantly wishing that every internist, in fact, every family practitioner, could quickly acquire this knowledge—be able to appropriate at once the important conclusions that have been drawn by those observers who have plodded along, year after year, in this field.

I have laid out a study of a few important remedies which, if the editors are willing, I shall, in the next few months, lay before the readers of this journal. These studies not only consider the detail action of the individual remedy, but the comparative action—their specific clinical influence; which will suggest to the readers, I hope, new lines of application which they may find superior to any used previously. I am beginning this study in this article by some desultory remarks on atropa belladonna, the form of this remedy best known to the readers of this journal being atropine.

In the study of the alkaloids, the action of this form of the drug, as compared with the action of the medicine prepared from the whole plant, is usually so different that it becomes necessary to study both the alkaloid and the whole-plant drug, each as individual remedies; the action of the latter only serving as a guide in a general way to the study of the former; and the influence of each should be kept separate in the mind and so considered in prescribing.

### Comparison of the Entire-Plant Drug and the Alkaloid

In the study of belladonna and its alkaloid, atropine, we have as nearly an exception to the above rule as there is in the study of any of these preparations. The action of the two is so nearly similar that observations made with one apply very fully to those made of the other. While I have used atropine very freely, the most of my observations, especially those upon children and, in fact, at the bedside, have been made with a carefully prepared tincture of the plant-drug.

I am not in a position to say what the exact comparative strengths of the fluid preparations and the alkaloid are, as the fluid preparations vary greatly. I have depended on one or two single fluid preparations, the strength of which I have determined by long use.

### Physiologic Influence of Belladonna

In its full primary influence, belladonna is an excitant to the cerebrum, promoting active hyperemia—a profoundly full, active condition of the cerebral capillary circulation. I will show later on that this influence of dilating the capillaries, combined with the stimulating influence of the agent upon the heart, with a characteristic influence in

contracting the capillaries of the splanchnic area, makes this the most powerful agent known, in its direct influence upon pathologic hyperemia or a tendency to stagnation in any of the capillaries, whatever organ they may be distributed to. I will also show that this influence can *serve as a guide* in the prescribing of this remedy in a rational manner, more profoundly than any other influence the remedy exercises.

When given in full doses, the fulness of the capillary circulation induced produces a flushing of the face, a bright redness of the skin, which in sufficient dose is general over the entire body. This resembles very closely the erythematous rash of scarlet-fever, and from this fact the Homeopaths have one of their guides in prescribing this agent for that disease. It suppresses the secretions of all the organs, especially of the mucous membranes, inducing dryness of the throat and mouth and a tendency toward constipation.

The evidences of cerebral fulness are: restless excitation, mental exhilaration, headache, dilated pupils, intolerance of light, impairment of vision, uncertainty of muscular movement, the latter finally amounting to incoordination with motor paralysis. There is delirium of a talkative character, in some cases violent or furious, with illusions and hallucinations. In extreme delirious excitement, if the dose is a fatal one, there is feeble pulse, cold skin, shallow respiration, and paralysis of the inhibitory nerves of the heart and heart-muscle, resulting in death.

In the influence of this remedy upon the capillaries of the skin, loading them up so actively, there is a contributory influence upon the capillaries of the spinal cord, which decreases the amount of blood in this locality, exercising often an exceedingly beneficial influence, especially when the patient suffering from spinal or cerebral congestion has cold skin, cold extremities, a cold clammy sweat, dilated pupils, and great sluggishness of action. In this case, the remedy is absolutely specific and invariable in its influence.

Belladonna acts directly upon the heart. It is a pure stimulant to this organ, through its influence on the cardiac muscle and accelerator nerves. Previously it was thought that this drug increased arterial pressure. This now is considered doubtful, as positive proof is lacking. Notwithstanding the lack of proof in the laboratory, in the individual there is more force in the pulse, and there is extreme activity, as stated above, in the capillary circulation, especially when there is

profound congestion, with cold relaxed skin, difficult breathing from pulmonary hyperemia, with a small compressible pulse and a death-like pallor, followed, in extreme cases, by cyanosis. Then the stimulating influence of 1-80 or 1-60 of a grain of atropine will show itself unquestionably in a very few moments. This influence is very general. Strychnine expends its influence upon the nerve-centers, but the influence of atropine is upon the peripheries in an unquestionable manner, making it probably the most active of the diffusible stimulants. In this rapidity in removing the blood from the lung-cells, it increases oxidation. It thus relieves the pulmonary hyperemia, overcomes cyanosis, and promotes free deep breathing.

#### Atropine and Belladonna Dosage

In prescribing atropine for the conditions hereinafter named, in order that the dosage may compare with the dosage of belladonna which I have found in every way advantageous in the treatment of such conditions, I will state that atropine granules of the strength of 1-500 of a grain may very readily be adjusted to any patient, whether a small infant or a strong adult. These may be given as granules frequently repeated until their effect is apparent, one, two or more at a dose; but, if they are to be given continuously over a long period of time, especially to children, it would seem to me best to dissolve a number of granules in a definite quantity of water. Ten granules of the 1-500-grain strength dissolved in twenty teaspoonfuls of water in a glass could be given in teaspoonful doses of 1-1000 grain each, repeating the dose frequently, or at longer intervals, according to the experience of the prescriber and the needs of the condition.

For common use, I have a carefully prepared U. S. P. tincture, and my medium dose for adults is one drop of this, repeated every hour until the indications disappear.

#### Specific Symptomatology

There is a characteristic syndrome present in congestive types of many diseases which rationally indicates the need for belladonna. Preliminary congestion is a common condition in very many diseases, and the influence of this drug, in antagonizing congestion and in producing a normal and effective equalization of the circulation, brings it first to the mind of those who are studying actual conditions, in an endeavor to decide upon the needed remedy.

The syndrome referred to consists in chilliness, mental dulness, and inactivity; dull eyes with dilated pupils, eyes partly open when asleep; skin cool and relaxed, with occasional free sweating; cool extremities; general sluggish capillary circulation.

Every doctor who desires to use atropine or belladonna intelligently should have the facts here stated impressed upon his mind, so that they can be immediately recalled when needed, as there are many cases in which these agents will save a life if the indications for its use are thoroughly known.

#### Other Applications

The Homeopaths claim that belladonna is especially indicated where the patients are full-blooded; seldom in anemic patients. Children, very active and with big brains, who are disturbed nights by night-terrors or dreams or show other evidences of restlessness are relieved by belladonna. The remedy acts best in full-blooded patients, where there is active localized heat, pain, redness, and swelling, evidences of local inflammation. That is a very common indication—local engorgement. When there are a full, bounding pulse, dull flushed face, dull eyes, dilated pupils, and throbbing carotids, the remedy is beneficial. Negroes, and those in warm climates, are especially susceptible to the action of belladonna.

#### Rational and Empirical Prescribing

I have often used the peculiar physiological action of belladonna to prove the superiority of prescribing from a knowledge of the rational influence of drugs, rather than prescribing empirically. If any reader will compare the reliable, invariable, and exceedingly plain influences above specified with any or all influences observed from the action of mercury, for instance, the difference between rational and empirical prescribing will be seen at once.

We give mercury in every one of the conditions for which it is prescribed, because it has been previously recommended by some authority for that condition. On the other hand, a patient recalling the above correct influence of belladonna or of two- or three-score other vegetable remedies that act in an equally definite and invariable manner will find, when he comes to a patient, who puzzles him by exhibiting a condition that he does not recognize as a common one, that there are distinct indications there for some one of the remedies that he has in mind, and if he prescribes this remedy then, though he may

never have heard of such an application before or of an exactly similar condition in its totality, he will be surprised at the immediate and successful results.

I had an experience once in this manner of prescribing, in a condition of which I had never heard, and where death was very near. In consultation with the husband of the woman, I found an immediate, clear indication for oil of turpentine. I prescribed it with confidence, then went to a hotel at 10 p. m., and went to bed, believing that the patient would be safe in the morning, though the husband was in an agony of doubt. So prompt was the remedy in acting in line with this specific indication that the patient was out of danger before 2 o'clock in the morning, and slept soundly the rest of the night.

#### The Treatment of Febrile Conditions

Belladonna is not a specific fever remedy, but in a febrile disorder there is some local engorgement somewhere; there is local capillary hyperemia and, if the remedy is not contraindicated by an already too active condition of the capillary circulation, it will be found of service in all acute congestive disorders with temperature. I have made it a practice for thirty-five years to combine this remedy with the directly indicated fever-remedy, until the symptoms of local engorgement were overcome, then to continue with the fever-remedy alone. When so prescribed, the influence of the remedy to restrain secretion need not be considered, as this influence is usually antagonized by the agent that is used to control the temperature. This is especially true of aconite administered in conjunction with it, which makes a most reliable combination.

#### Therapy

Belladonna (or its alkaloid atropine) is indicated at the onset of inflammatory conditions. Given early with aconite, when fever alone is present, then hyperemia does not occur and the inflammation is aborted. If the disease is localized in any organ, displaying the phenomena named above, its influence often is quickly apparent.

In diphtheritis, tonsillitis, croup, bronchitis, pneumonitis, pleuritis, and peritonitis, belladonna stimulates the capillary circulation in the engorged organs, thus quickly preventing the local effects of the acute congestion or inflammation. At the same time it has a marked influence upon the fever when used in conjunction with the other indicated measures. In chronic soreness of the chest,

belladonna is a valuable remedy. It is one of our best remedies in whooping-cough. If half of a drop of the tincture of belladonna be given every two hours, alternated with 1 one grain of alum in syrup, excellent results often are obtained. Atropine may be given for the same purposes, in dosage approximate to the patient's age. In granule form, it may be administered in small quantity at short intervals (one hour or less) with the happiest results.

In the therapeutics of *all continued fevers* this agent has an essential place in some stage of the fever. In fevers of malarial origin, there is no other remedy that will replace it. In the sthenic stage of these fevers, combined with aconite, it is sufficient for many of the indications. If there is an intermission or a marked remission, it may be continued alone during the period.

In *typhoid fever*, it is an important auxiliary during almost the entire duration of the fever. Contraindications may arise, when it must be discontinued. It prevents congestion of the intestinal mucous membrane, and of the glands. This is, indeed, an important function. It stimulates the heart to diffuse the blood uniformly throughout the entire capillary circulation, and thus prevents cerebral engorgement. The brain symptoms exhibit many of the belladonna-indications and are quickly relieved by it. It may not convince the prescriber of its beneficial influence in only a single case, but its continued use, in many cases, is most convincing, as compared with those in which it is not used.

In *meningeal inflammations*, both of adults and children, it is often sharply indicated. This is especially true in subacute cases where there is slowly increasing dulness, with a cold, moist skin, although there is an excess of 2 or 3 degrees of temperature. The pupils are dilated widely, the eyes are dull, the head is drawn back and crowded into the pillow, slowly and constantly rotated from side to side, the eyes are partly, if not widely, opened when the patient is asleep, and the urine passes involuntarily. These cases are sometimes exceedingly stubborn. Belladonna or its alkaloid in frequent doses is the most directly indicated remedy.

In the milder form of *insanity* or other forms of *mental disease*, the Homeopathist prescribed belladonna where there was *violent delirium*, with livid face, dilated pupils, protruding eyes, fury, striking or biting, spitting, inclination to throw off the clothing or tear them, intolerance of light, extreme arterial tension; but he gives in high dilutions.

Some of our writers have claimed that belladonna is just as effective in preventing the development of diphtheria as it is in preventing scarlet-fever. They think they have excellent reasons for this conclusion, and I am inclined to believe with them.

One physician says that in certain forms of *obesity*, with plethora and an inclination for general stasis, belladonna will assist in reducing the amount of fat.

*Erysipelas* will yield promptly to belladonna or atropine in small doses. It is given with aconite or alternated with rhus. It should not be omitted. It acts most promptly if the tissues are smooth, dark, and deep-red, with sluggish circulation and burning, the inflammation being confined to the structure of the integument, and not in the areolar tissues, there being no pustulation or vesicles present.

#### Its Use in Eruptive Diseases

In *eruptive fevers*, it is a most essential remedy. It quickly determines the eruption to the skin, and retrocession is almost impossible if it is used early. If retrocession has occurred, belladonna is the most prompt remedy known for restoration of the eruption.

In *scarlet-fever*, it has a salutary influence also upon the fever. It promotes exfoliation and assists in the general elimination of the products of the disease. It is directly opposed to the *renal hyperemia* or the *nephritis* so common as a result of scarlet-fever and diphtheria, and is our most reliable remedy with which to overcome this condition when it occurs. For the nephritis, a drop of the tincture may be given to a child ten years of age every two hours alternated every hour with 1-2 grain of *santonin*. If there be a large quantity of albumin present, 2 grains of gallic acid every two hours will facilitate a cure. Another remedy of great value is *arbutin*, the glucoside of *uva ursi*.

Atropine, given in small doses after an infectious exposure and before the occurrence of scarlet-fever, will act as a prophylactic of the disease. The writer has administered the remedy to the other exposed children when a single case has appeared in a large family, none of whom had an attack. It must be given in small doses: 10 drops of the tincture of belladonna in 4 ounces of water, a teaspoonful every two or three hours to a child of six years, or equivalent dosage of atropine.

Belladonna is of value in *congestive neuralgias*. Full doses should be given. It will cure some exceedingly stubborn cases. It is

an excellent plan to give it with ammonium chloride in stubborn chronic cases.

In *prostrating night sweats*, with enfeebled circulation and cool relaxed skin, belladonna or atropine is advised. The 1-100 of a grain of atropine at bedtime will accomplish excellent results. It may be given hypodermically. Medicinal doses of belladonna during the day will accomplish similar results.

In *headache* from fullness of the circulation of the brain, dull frontal headache, with indisposition, malaise, and cool skin, with mental torpor and a tendency to unpleasant dreams, this remedy is of value; 1-2 drop every hour or two.

The influence of this drug as an antispasmodic against involuntary muscular action gives it some value in spasmodic colic and obstinate constipation. It is in common use in laxative pills, to facilitate the action of the purgatives. In lead-colic, it is advised.

Belladonna in physiological doses is an excellent remedy for the treatment of the conditions present during the passing of *biliary calculi*. It very materially facilitates the passage of the stone, prevents chronic change occurring in the structure of the duct, relaxes the duct by a paralyzing effect upon the circular muscular fibers, and renders subsequent attacks less frequent and less severe.

It is a remedy of service in the treatment of *nephritis*. Albuminuria is the result of greatly increased renal blood pressure and capillary engorgement. Belladonna antagonizes all the pathological processes in a direct manner. In acute cases, its influence is apparent from the first. In subacute or chronic cases, its use must be persisted in, but the results are equally satisfactory where structural change has not taken place in too great a degree. Other indicated measures are not to be neglected.

In *incontinence of urine*, where there is a plethoric tendency, a stagnant capillary circulation or the tissues are relaxed, belladonna is a prompt remedy. It is useful in diabetes insipidus, with cold extremities. In these cases, it should be given in full doses.

#### In Uterine and Ovarian Diseases

Professor Whitford long advised belladonna for painful menstruation. There is an extreme form of this difficulty, in which the patient becomes very cold; the skin is cold and clammy, the pain is extreme, the hands and feet are icy cold, and the temperature subnormal. Belladonna in full doses to its physiological effect is directly indicated here. The patient can be put into a hot bath, with

only good results if this is not overdone, but the equalization of the circulation can be accomplished fully with belladonna. Usually a hypodermic of atropine will accomplish the results more readily.

By stimulating the capillary circulation in the ovaries, this agent is directly useful in the milder forms of congestive dysmenorrhea. The direct indications for the agent are nearly always present in the cool skin, cool extremities, dulness, chilliness, and inactivity. It may be given in drop-doses preceding, during or subsequent to the period.

Its influence in stimulating the capillary circulation of the ovaries in stasis renders it of value in the treatment of sterility from inactivity of those organs. If there are hysterical manifestations at the menstrual epoch, with deficient menstruation, pulsatilla may be used in conjunction with it.

The agent will retard the secretion of milk in the lacteal glands, and is of service when, from the death of the child or from acute inflammation, as in severe mastitis where abscess is threatened, or from other causes, it is necessary to suppress the secretion. It may be given both internally and applied externally, with good results. Its influence is wide and salutary. When restoration of the secretion is desired, it should be promptly discontinued.

Externally, belladonna is used in spinal tenderness, with congestion, also in congestive occipital headaches and lumbago. It is applied in all conditions inducing a lame back and in neuralgia of the spinal and sacral nerves. In violent acute inflammation, it acts as a sedative and anodyne while it exercises its healing properties. It is used in *rheumatism*, in sprained and painful joints, and in boils and carbuncles.

The extract of belladonna is used in relaxing a rigid os uteri. An ointment is made and applied directly to the os. In this form, it is of value in spasmodic urethral stricture and in painful congestive conditions of the rectum. A prepared belladonna-plaster may be applied over inflamed organs while the agent is being given internally.

In the treatment of *phlebitis*, for which we have very few specific remedies, the late Professor Clark, because of its power in determining the blood to the venous capillaries and venous walls, claimed that belladonna, in the form of a strong ointment made from the concentrated extract and kept hot, would produce very prompt results. He invariably used it, and claimed to have had no failures. He would watch for the physiological effect—

the dryness of the mouth, dilatation of the pupils, and dry throat; he would then remove it for a while, subsequently to reapply it in the same manner.

#### Atropine in Certain Emergencies and Special Conditions

Atropine is of superior advantage, used hypodermically, in certain emergencies; in narcotic poisoning, and as a stimulant in the recovery of patients from shock. The 1-100 grain dose will produce the physiological symptoms in a healthy patient. This dose seldom is exceeded, and from 1-200 to 1-150 grain usually is sufficient. The 1-50 of a grain is the maximum dose.

Solutions of atropine for hypodermic use should always be freshly prepared; old solutions are to be avoided, for, the fluid becomes infected and the alkaloid is partly destroyed.

Within recent years, the action of atropine given hypodermically for controlling hemorrhage has gained so many advocates that it has now become established as a most reliable remedy for that purpose. Doctor Waugh was among the first to bring this use of it forward. He clearly demonstrates its rational, reliable influence for this purpose. From 1-50 to 1-100 grain is injected, and the doses repeated as needed. It is exceedingly useful in uterine hemorrhages.

Doctor Paulding, writing in *The Medical Council*, relates some experiments with the hypodermic injection of atropine in acute alcoholism. There were eleven boys less than 12 years old playing in a freight-yard where some highwines in barrels were standing on open cars. A barrel was tapped with

a gimlet and through a straw all of the boys drank freely of the spirits. Doctor Paulding was called to treat one of them. He observed the extreme dilatation of the pupils. This, the characteristic indication for atropine, determined its use, and he gave a hypodermic of 1-200 grain. This one dose saved the boy's life. The other ten boys died. The doctor reports two other cases where death seemed imminent, but which were saved by a single hypodermic injection of 1-100 grain of atropine.

Doctor Shadid dissolves 1-60 of a grain of atropine in 2 ounces of water and gives one teaspoonful every ten minutes until there is relief, in certain conditions of headaches which follow prolonged worry, excessive mental exertion, and with more or less exhaustion.

In acid stomach, where the hypersecretion of the acids is great, atropine, an occasional dose as needed, has been found to exercise a good influence.

Mild solutions of atropine dropped into the ear will relieve earache.

The use of cactoid in subnormal temperatures has strong advocates, but its influence is positively enhanced by combining it with atropine, giving the two in comparatively full doses for a time.

The injection of atropine at the constriction, in case of hernia, or the application of the extract of belladonna over the enlarged hernia has caused the spontaneous reduction in a number of cases. It is a powerful laxant in spasmodic or other constrictions.

Atropine has been used with excellent advantage in the treatment of seasickness.

## Indicanuria: Its Meaning and Treatment

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**I**NDICANURIA, or the presence of an abnormal amount of indican in the urine, is a comparatively frequent symptom, and one exhibited by many patients. No physician should neglect the simple test for indican in the urine, as this test is of greater value than the test for albumin, for it very frequently is a forerunner, an advance sign of a diseased condition that does not readily manifest itself clinically. The presence of albumin usually is suspected in the urine, the patient generally showing unmistakable signs of renal disease; whereas, ordinarily, in a considerable percentage of cases, the presence

of indican is not; its discovery will lead the careful physician to a more complete examination of the patient, to determine, if possible, the reason for its presence.

#### Tests for Indican

Indol, the result of putrefaction, produced by colon or other bacteria acting upon proteid material, is oxidized to indoxyl in the blood, and is excreted in combination with sulphuric acid and sodium or potassium, as sodium- or potassium-indoxyl-sulphate, which we commonly call indican. In testing for this substance, we add to the urine an equal volume

of concentrated hydrochloric acid, which splits the indican into indoxyl and sulphuric acid. Then some oxidizing agent is added, which oxidizes the indoxyl to indigo-blue. This is now taken up with chloroform, in which it is very soluble, the chloroform becoming blue, the depth of tint depending upon the percentage of indican present. While not absolutely necessary, it is very convenient to have a tube with graduations marked on it, in order that we may use the same amount of urine and reagent each time, thereby obtaining a relatively quantitative test, this being amply sufficient for all clinical purposes.

Ordinarily, Obermayer's reagent is used. This consists of a 2-pro-mille solution of ferric chloride in concentrated hydrochloric acid. Equal amounts of this reagent and urine are mixed, and to this mixture the chloroform is added. The hydrochloric acid, as above noted, liberates the indoxyl, the ferric chloride oxidizing the indoxyl to indigo blue.

There are a great many modifications of this test; and, while Obermayer claimed that his reagent was permanent, yet occasionally difficulties are experienced with it. However, instead of using Obermayer's reagent, various other oxidizing agents, obtainable at any drugstore, can replace this solution. For example, in all cases we first add an equal volume of concentrated hydrochloric acid; then the oxidizing agent is to be added, to develop the blue color. For this purpose, we may use one drop of a dilute tincture of ferric chloride, or we may add a few drops of sodium or calcium hypochloride, or 1 or 2 drops of solution of peroxide of hydrogen, or a drop or two of dilute nitrous acid, or 1 or 2 drops of a dilute solution of potassium permanganate.

Frequently the reaction is obscured by the presence of a violet to reddish discoloration of the chloroform. This usually is due to the presence of iodine, when taken as a medicine. This can readily be differentiated by decanting the urine from the chloroform and adding to the latter a small amount of dilute solution of potassium hydrate, which will combine with the iodine and form a colorless compound, potassium iodide, while the blue coloration of indigo remains in the chloroform; or, we can add a solution of sodium hyposulphite, which also decolorizes the iodine.

#### Significance of Indicanuria

Indican in itself, so far as known, is non-toxic; but, the indol is one of the products of putrefaction, and it is toxic, it being possible

to produce, to a slight extent at least, the characteristic lassitude and headache, even in healthy individuals, by injecting small doses of it. As a result of the absorption of this indol, the tissue-cells attempt to destroy its toxicity by producing combinations of it with sodium or potassium and sulphuric acid and oxygen, in the form of the nontoxic indican.

The presence of indican in the urine, as before stated, is merely a symptom, one of the easily recognized evidences of the abnormal absorption or production of toxic bodies in the intestine. With the formation of indol, there also are produced skatol, phenol, and various other toxic derivatives belonging to this group. The indol, being excreted as indican, and being a product that happens to be very easily tested for, therefore apparently holds our attention.

Microorganisms are always concerned in the production of indican. Usually the intestinal tract is the locality from which it is absorbed, but albuminous putrefaction in other parts of the body may result in the appearance of indican in the urine, as, for instance, in empyema, putrid bronchitis, and gangrene of the lung. This fact must always be borne in mind.

#### Three Classes of Indicanuria

In general, according to Barr, indicanuria can be divided into three general classes:

1. Transitory indicanuria, due to some temporary anatomic lesion or to insufficiency of the gastrointestinal secretions. Frequently it is psychic in origin.

2. Constant indicanuria, due to permanent or progressive anatomic lesions of the gastrointestinal tract or to permanent insufficiency of the gastrointestinal secretions and constitutional hypoplasia. These cases amount to about 1 1-2 percent. In these cases, the indican can not be removed by high colonic lavage.

3. Recurrent indicanuria, due to some recurrent anatomic lesion of the gastrointestinal tract. If this lesion be in the colon, high colonic lavage will remove the indican. These recurrent cases are particularly interesting to Barr, as he found that they point conclusively to a lesion often before other clinical signs are definitely manifest, such as appendicitis of a subacute type, cholecystitis, gastric or duodenal ulcers, the large majority of them being cases of cholecystitis.

#### The Indicanuria of Achlorhydria

In all cases of indicanuria, especially constant indicanuria, it is absolutely essential to

determine the presence or absence of achlorhydria, all cases of which show a constant indicanuria.

So far as our present knowledge of this symptom goes, the basic conditions upon which the presence of indican in the urine depends may be enumerated as follows:

Some abnormal condition that interferes with the normal flow of the digestive secretions, that is, some interference with the normal digestive secretory functions. This may be an anatomic condition; or it may be produced as a result of a circulatory disturbance, due to disease in some adjacent organ; or to some psychic cause; or to some actual disease of the gastrointestinal tract, resulting in a lesion of the gastrointestinal mucosa. This, of course, practically always is accompanied by some interference with the normal flow of the digestive secretions. There is present something that causes an interference with the normal action of the intestinal secretions, which in health tend to maintain a proper balance whereby toxic bodies or, as Abderhalden puts it, bodies out of harmony with the tissues, are held in abeyance, either not absorbed or changed before absorption.

It must be borne in mind that simple constipation, uncomplicated by a pathologic lesion, does not result in an excessive amount of indican in the urine. The greatest amounts of indican are found in lesions of the small intestine.

Among the conditions in which an excessive amount of indican are found in the urine are achlorhydria and hypochlorhydria, either simple or as a result of carcinoma of the stomach. Whether this lack of hydrochloric acid fails to destroy a certain number of putrefactive organisms or, what is more probable, allows putrefaction to occur as a result of improper digestion of the food, thereby resulting in increased production of indican, is not definitely settled, because occasionally in cases of duodenal ulcer associated with hyperchlorhydria an excessive amount of indican is found, although these cases are the exception and not the rule, and here we have a lesion of the mucosa.

#### Other Causes of Indicanuria

Cases of acute, subacute, and chronic gastritis also show an increased indicanuria. These cases, of course, also present a marked condition of intestinal putrefaction. Anything that interferes with normal peristaltic movement, such as acute peritonitis, other diseases of the small intestine, ileus, and so

on, also show a marked increase. In typhoid fever, especially after hemorrhage or perforation, we find a marked increase of indican; also in diarrhea and cholera, but not in dysentery. Although indican is present in the latter condition, it is not present in the large amount noted in the usual bacillary diarrhea.

As a direct result of the absorption from the intestine of excessive amounts of toxic substances, such as indol, resulting in the excretion by the kidneys of an abnormal urinary ingredient, especially if prolonged, there necessarily is produced some change in the renal epithelium. The excretory cells of the kidneys are affected, as a result of which we should expect degeneration to occur. This we find to be so, because practically all cases of arteriosclerosis and high blood pressure show marked indicanuria, both conditions probably being later symptoms of a general disease-condition, and the indicanuria being one of the early signs.

#### Indicanuria Merely a Symptom

From the above, it will readily be seen that indicanuria is a symptom only, but that it is of great diagnostic importance. It is essential in each and every one of these cases to arrive, if possible, at a definite diagnosis. Unfortunately, as a result of the work of Metchnikoff and others with the bacillus *bulgaricus*, a great many physicians—realizing from experience that the ingestion of this organism (following a preparatory course of cleaning the digestive tract) will greatly reduce the indican or even cause it to disappear from the urine—feed this bacillus, but do nothing further. They do not establish the exact status of the patient; some even do not attempt to do this, being satisfied with the mere clearing up of this symptom. The result is, some temporary relief.

With the relief that follows such a course of treatment, the symptoms from which the patient usually complains (lassitude, headache, and so on) usually disappear to a sufficient degree that the patient is satisfied; but, as a rule, the relief is only temporary, unless the true, basic etiologic condition is discovered and some means of treatment is directed toward its cure or relief instituted.

Obviously, there should be no treatment for indicanuria; but, unfortunately, we find, not only textbooks, but our medical journals constantly advising methods of treatment for indicanuria, when this is merely a symptom of one of many disease conditions.

The treatment usually outlined, namely, to give cathartics (calomel or podophyllin, fol-

lowed by a laxative saline) to remove as much as possible of the debris from the small intestine, and with it a large number of the offending microorganisms that are producing indol from this debris, following this with an active, living, and efficient culture of the bacillus bulgaricus—either a bouillon-culture, an efficient tablet or as bacillus-bulgaricus buttermilk—will, in the majority of cases, cause the indican to disappear from the urine.

This, of course, means that the production of indol in the intestine is reduced to a minimum, with consequent reduced absorption into the system, and, thus, necessarily, a lessened toxic action upon the patient. Therefore, the patient's symptoms, such as depend upon the toxic action of absorbed indol, disappear for the time being.

This treatment is perfectly rational, of course, it has been fully established, and, in the majority of cases, is efficient.

However, the physician should go further. He should determine, first, whether or not the patient has gastritis. He should determine whether the amount of hydrochloric acid in the gastric juice is normal, because achlorhydria or hypochlorhydria very frequently are the cause of this condition. Following this, it is essential to determine, if possible, the exact alimentary status or, at least, whether or not some gastrointestinal lesion exists, and, if so, proper treatment, if available, should be directed to the relief of that condition.

#### As to the Proper Diet

It is a well-known fact that practically all organisms, at least those commonly found in the intestines, spare proteid in the presence of carbohydrates. Therefore, aside from the exhibition of the bacillus bulgaricus, it is essential that the patient's diet be carefully supervised, at least to the extent of markedly increasing the carbohydrates, especially sugars, and decreasing, at least to a reasonable extent, the proteid intake. Meat and eggs, even in the normal individual, if taken in excessive amount, tend to cause increased indicanuria. A milk diet, however (either fresh milk or buttermilk), practically always decreases the indican. Many of these cases

in which there is some infection of the gastrointestinal tract will recover under this treatment.

Especially brilliant results have been obtained by means of the treatment here outlined in the gastrointestinal diseases of children. It is highly probable that, as a result either of the excessive acid production of the bacillus bulgaricus or of some other inherent quality, the putrefactive and pathogenic bacteria causing these gastrointestinal disturbances in infants are held in abeyance, and, as a consequence, the patient recovers.

These organisms usually do not penetrate the tissues; the conditions are somewhat similar to those existing in Asiatic cholera, in which the bacteria utilize the debris of the intestine, or, in an extreme, the intestinal mucosa, for the production of toxins, the absorption of which produces the greater part of symptoms and lesions.

So, then, if, by some harmless method, we can prevent the multiplication of these organisms, with the resultant toxin production and the absorption of these toxins, the patient recovers. This is the mode of action of the bacillus bulgaricus in these acute diarrheas, at least in so far as we understand it at present.

I would urge upon all practitioners the repeated testing of the urine for indican; and, if this substance is found in excessive amount, to attempt to elucidate the underlying etiologic condition that is responsible for its presence in the urine.

Following out the treatment here outlined, with the aim to prevent the formation and absorption of toxic bodies, is not sufficient, however. The physician, in justice both to himself and his patient, should, in each and every case, attempt to determine the exact status of the patient's gastrointestinal tract, if this is possible. Furthermore, he should always bear in mind that the presence of indican in the urine is an *early symptom* of many chronic diseases which, if recognized in time, are amenable to treatment; and many of these diseases are not suspected, the patient showing no objective signs and complaining of no subjective ones, the presence of indican in the urine being the sole evidence at that stage to lead to its discovery.



# The Letters of Doctor Leonidas Playfair

Addressed to a Young Man Just Entering Practice

By A. H. P. LEUF, M. D., Philadelphia, Pennsylvania

[Continued from page 617, July issue.]

IT is also well to have some carmine tablets for coloring solutions. For instance, you may dissolve two Seiler tablets in a 4-ounce bottle of water, to be used by the patient as a nose and throat spray. But these tablets have become so popularized that they are readily recognized. Their identification is prevented by the addition of a carmine tablet. Likewise, if you leave two solutions at a patient's house, and both are naturally colorless or of the same color, one may be modified by the addition of one or more coloring tablets, to prevent the patient's getting confused.

There is another valuable practice that you will do well to borrow in part from our homeopathic confrères. It is the use of sugar globules or pellets. Nor need you care about the good-natured chaffing it may entail from your prejudiced though supposedly untrammelled brethren. These have a very useful purpose under various conditions. Above all, they furnish a most convenient and palatable, as well as elegant, way of administering a remedy. Children will take them eagerly, women will welcome them with great pleasure and delight, while active business men will use them with a complacent satisfaction during busy hours and in restaurants without being observed, and especially without being required to use water for dilution; simply being shaken out upon the hand and placed in the mouth.

I find the No. 50 size the most convenient. A 2-dram vial is filled with them, the medicine is added till it reaches up about one-fifth to one-quarter the height of the bottle, and then shaken to bring the liquid in contact with all the globules. In one-half hour it is ready for use, the medicine having permeated and softened the globules, without, however, dissolving them. The ordinary tinctures and fluid extracts can not always be used in this way. If you make your own solution, it must be done with 87-percent (homeopathic) alcohol, this having been found to be the best strength of alcohol to secure maximum penetration of the sugar mass without causing its solution. Absolute alcohol will not dissolve sugar, while pure water will do so promptly.

Aconite is readily given this way. Also minute doses of ipecac or of rhus toxicodendron. I have given the biniodide and the bichloride of mercury in the same manner to extremely susceptible individuals, securing a recession of symptoms without any objectionable effect, although formerly always accompanied in them by signs of poisoning whenever used. These globules constitute a most pleasant form of placebo, although they may be made less agreeable by wetting with nux vomica. In fact, this is one of the best, almost only, way to give nux vomica agreeably to small children.

Please your patients as much as you possibly can without injury to themselves regarding the quantity and form of medicines that you prescribe. Do not insist upon their taking pills if they say they cannot and there is any possible way of otherwise giving the medicine in an acceptable form. Patients are more than mere machines, differing from them in the fact that they are conscious, volitional beings, with likes and dislikes peculiar to themselves that should not be disregarded. I may also add that many persons who cannot take a pill or tablet, will readily take granules.

The suggestions of value that can be made for your guidance in giving your own medicines are so many that it is impossible to think of more than a fraction of them. One other occurs to me that I should like to impress upon you as forcibly as I can. It is in regard to the quantity of medicine you give a patient at each visit.

You well know that there is much waste of medicine when written prescriptions are given. You are taught to prescribe, say, 3-ounce mixtures because they contain exactly 24 1-dram doses, and every 2 drams of medication in such a mixture yields 5 grains or minims, as may be, to the teaspoonful. This saves the doctor the trouble of mental arithmetic that would be entailed in writing for varying quantities. But it is costly to the patient and needlessly profitable to the druggist, the gentleman who often bears the one relation to the physician and patient that the lawyer is proverbially said to do to the community at large—always gaining, no matter who loses. The custom of writing for 3-ounce mixtures, or for any other uniform amount in which one is accustomed to make calcula-

tions, while senseless on the part of the prescriber, is expensive to the patient, for the reason that medicines commonly are changed before they are entirely used up; and what is left over is waste and the proportionate share of money expended upon them is thrown away. And is it not fair retribution that the doctor who causes such wanton loss should eventually pay for it by long-deferred payment and compulsory adequate discounting of his bill?

This economic sin is largely avoided by dispensing your own medicine, although not altogether so. It is wise to give just enough to last till you see the patient again. To call subsequently and merely order the same medicine continued, looks to most people as if a needless visit had been made. If, however, it is about used up, your coming is welcomed because evidently necessary. To avoid the appearance of being tricky and designing, you must really be so to a certain extent by giving something additional upon which you must not fail to lay special stress. Of course, with more intelligent patients this is not so necessary, as they understand that you may call to watch the progress of the disease with a view to aborting complications.

Patients are very careless about keeping engagements during office hours. If you want to see them at stated intervals, be sure to give them exactly enough medicine to last them till they are to return. If you give them more than this, they are likely to defer coming till their medicine is consumed. That is harmful to them and a loss to you; a loss both in office fees and in prestige; the latter, because the patient does not do as well as he should, owing to his own neglect, but for which you are held accountable.

Have the courage of your convictions in giving small amounts of medicine. Often I have given a single tablet of 1-100 grain of arsenite of copper to be dissolved in one goblet of water (4 ounces), of which the patient was to receive a teaspoonful every twenty or thirty minutes. Some people are inclined to consider this a small equivalent for an office fee. Do not mind them. Be ever conscious of the fact that you are the doctor; that your judgment is supreme as between yourself and the patient and his friends. Maintain, but by manner rather than by explicit claim, that you understand your profession.

If people remark upon the minuteness of the quantity received for the fee paid, remind them that, for instance, a diamond of the same size would cost much more, though it

could not cure their ailment. You may even indirectly bring home to them their own ignorance, by assuring them, possibly with a benevolent good-humored smile, that the bulk of a tablet is merely an innocuous medium for holding but the hundredth part of a grain of the actual remedy. Be not intimidated by the large, full-blooded, powerful fellow who sneers at small tablets, sugar globules or granules. Simply give to him to chew a granule containing 1-100 grain of glonoin and tell him that you want to see how it affects him within sixty or ninety seconds. He will be incredulous; but your time will come. At the end of this brief period, with finger upon his pulse, note the lessened blood pressure and the fuller beat. Then ask him if he feels any effect. If he says there is none, ask him how his head feels. He will then admit his error. His undisguised contempt of your little pills will give way to wonder at their unsuspected "strength," and an admission that the art and science of medicine, after all, is utterly beyond his ken.

#### Send Patients to Your Office for Medicine

Many times you will have to let a patient send to your office for medicine. Some may prefer going to a nearby drugstore. If you see no objection to writing a prescription, do so, but remind them of the choice you give them of getting it at your office without additional charge, if they wish to go for it. They usually decide to call at the office. Should it, however, be undesirable to give a prescription, you should insist upon their sending to your office. For this, you can give this good reason—that no druggist has just the remedy you wish to give. If it is a combination, you can say that you must make it up yourself upon your return home. In other words, do not forget that, while you are practicing a liberal profession, you must live by it, and should, therefore, keep its business side in mind.

There are two courses open to you in having patients send to your office for medicines. One is to be followed while your practice still is small, and the other, after you have become very busy. In your earlier years, require them to call during your hours, you putting up the medicine for them as they wait. In this way you get credit for a larger office practice than you have, and benefit to that extent, without harm to anyone. I trust that you understand, however, that medicines needed promptly are to be secured as speedily as possible, without any other consideration than the immediate need of the

patient. This I shall expect you to understand to be my attitude in all matters of policy that I may suggest in these letters to you.

#### As to Free Sample Remedies

There is yet another matter of importance that I will mention in this connection, rather than incur the risk of forgetting it entirely. It is with reference to the use of sample medicines. Never use a sample medicine except for a well-defined reason. In the first place, to do otherwise is not practicing your profession in an intelligent manner. Secondly, it makes you a tool of manufacturing druggists. Thirdly, very few of them teach you anything, for the reason that the determination of the relative efficiency of drugs requires careful observation of their use for a reasonable length of time in series of cases. Fourthly, never give a sample so marked to any patient. A charity patient will feel hurt, because under the impression that you are either experimenting upon him, or that you think anything that costs you nothing is good enough for him. That wounds him, and we have no license to hurt the feelings of those whom we are gracious enough to treat gratis. Besides this, such person is apt to quit and to decry you, thus being an injury, when he might be a benefit. To give a sample to a pay patient makes him wonder why he is giving you his money. He resents being trifled with. Some physicians are careful enough to remove the labels before giving samples to patients, but life is too short and time too valuable to waste in this way.

My position for a long time has been that, if a drug firm is intent on marking specimens of their goods "samples," they should be per-

mitted to use them themselves. Beware of being a free, though most efficient, medium for the advertising of their goods.

Learn to use well the remedies that have been tried and have well-determined qualities. Do not let similar products put out under different names by rival drug houses mislead you into the belief that they are different remedies, each one a little "better than the other," but all of which must be prescribed for a time to determine their relative worth. Remember that most of these vaunted and high-priced remedies are to be had in the open market, at a much lower cost, under their pharmacopeial name. Thus, acetanilid, worth around 60 cents per pound, was sold at one dollar per ounce under a trade-name. Even now it is the principal ingredient in innumerable \$1-per-ounce pain relieving proprietary fancy-named products, but I find the simple drug virtually as useful as I do any of its much-advertised combinations.

After this long, but really very important, letter, you are quite ready to begin, except that we have not yet considered the matter of charges. What are you to ask for your services under varying circumstances? is a most important question. Let us, therefore, consider it in my next letter. Meanwhile, take whatever fee you can get. Observe that I say "get," which I do deliberately for the simple reason that a lesser amount in hand has more value than a prospective larger sum that you may never receive. So begin at once to cultivate the habit of securing your compensation as promptly as possible, meanwhile bearing in mind the former precepts of

Your true friend,

LEONIDAS PLAYFAIR.

## The Schick Reaction

A New Factor in the Prophylaxis and Treatment of Diphtheria

By CHARLES F. LYNCH, M. D., Terre Haute, Indiana

WITH the development of antitoxin as a curative agent in the management of diphtheria, medical science made an immense stride forward in the handling of this childhood scourge. Further experiments with antitoxin developed the fact that small doses of, say, 1000 units would nearly always produce immunity of four to six weeks' duration. This also was hailed as a great advance, and the use of these immunizing doses of antitoxin was widely advocated.

However, later observations shook our belief somewhat in the advisability of this practice. It was observed that in a large percentage of persons diphtheria did not develop after being exposed, even though antitoxin was not administered; but, on the other hand, it was found that the use of antitoxin, even in the small dosage necessary for immunization, was not wholly without disadvantages. Not infrequently serum-disease and anaphylaxis developed. So disagreeable

were these side-results that not a few practitioners preferred to wait until there appeared clinical manifestations of the disease before resorting to serum-therapy.

Another interesting fact soon was developed in connection with the laboratory diagnosis of diphtheria. It was found that the appearance of the Klebs-Loeffler bacillus in swab-cultures from the throat was not always a positive sign of diphtheria, even though there were accompanying indications of a catarrhal inflammation. Frequently by the time the laboratory report was received the condition had sufficiently improved to make the clinical exclusion of diphtheria easy. This apparent conflict between laboratory and clinical observation has led some practitioners to doubt the reliability of the laboratory finding. However, more recent developments have widened our conception of this disease and incidentally have exonerated the laboratory-worker in this respect.

Romer, Park, Schick, and other workers have proven by many tests that the blood of a large percentage of patients contains antitoxin in considerable amount. It has been demonstrated that 80 percent of the newborn, 50 to 60 percent of children, and 90 percent of adults have sufficient antitoxin present in their blood to protect them from diphtheria. It is estimated by Schick and other observers that the presence of 1-30 unit of antitoxin to the cubic centimeter of blood suffices to give ample protection; von Behring even asserting that as small an amount as 1-100 unit to the cubic centimeter of blood is enough.

These observations explain why a large percentage of exposed persons do not contract the disease, as well as the fact that, although the Klebs-Loeffler organisms may be found in the throat, diphtheria need not necessarily develop.

It remained for Schick to give us a practical method of determining clinically whether or not antitoxin existed in the blood, in order that we might know in advance those who required serum injections. Schick found that this could be done by injecting a diluted solution of a standardized diphtheria-toxin into the skin-tissue; the injection being of such strength that 0.1 Cc. represents 1-50 of the minimal fatal dose for a guinea-pig weighing 250 Grams.

For making the injection, use an ordinary 1-Cc. all-glass syringe of the Luer pattern, having 0.1-Cc. graduations and a fine, sharp-pointed platinum-iridium needle. The point

of injection is the flexor surface of the arm. The site of injection is cleansed in the usual way with tincture of green soap and alcohol, whereupon the needle is inserted *into* the skin—not through and underneath it. The point of the needle should rest under the superficial layers of the skin, and still its outline should be plainly visible. The amount of the diluted toxin injected should be 0.1 Cc., and if the needle has been properly inserted, this will cause the appearance of a small bleblike elevation, which disappears in the course of a few minutes.

The reaction is apparent at the end of twenty-four hours. In those persons who give a positive reaction, the local area of injection is slightly swollen and surrounded by a reddish-colored inflamed zone. This reaction increases in intensity during the first forty-eight hours, while the discoloration gradually fades away in the course of a week or ten days. The subsidence of the reaction is followed by a reddish-brown pigmentation and desquamation of the superficial epithelial layers. During the entire period of the reaction, there exists a typical central induration at the point of injection. In those who give a negative reaction, there is no noticeable change at the end of the first twenty-four-hour period.

The occurrence of a positive reaction means that there is an absence of antitoxin in the blood and that this subject is susceptible to diphtheritic infection. On the other hand, if no local reaction occurs, it indicates that this individual is immune to diphtheria, so that antitoxin here is not indicated, even though throat-cultures are shown positive, the Klebs-Loeffler bacillus being present.

Occasionally a pseudo reaction occurs, even in those individuals who have a high percentage of antitoxin in their blood. These false local reaction-marks are recognized by the fact that they appear earlier, are less circumscribed in outline, have a denser infiltration, and tend to disappear within a few hours, leaving but little pigmentation, and are not followed by the superficial desquamation seen in the true reaction.

By the use of this simple test in families, schools, and institutions where a case of diphtheria may develop, it is possible to determine within twenty-four hours those members of this aggregation that are susceptible to the disease. Those giving a negative Schick reaction may safely be dismissed from consideration, for, extensive observations in this country, as well as in Europe, have demonstrated that the test is decidedly reliable. Those giving a positive reaction should be

protected by means of immunizing doses of antitoxin.

In order to detect the presence of carriers, cultures should be made from the throats of every presumptive victim. It will be found that many persons harboring the bacilli give a negative Schick reaction. These carriers should be isolated and properly treated until negative cultures are shown. This means a great saving in antitoxin as well as a great amount of unnecessary annoyance avoided. In this way the number of cases of anaphylactic shock also will be reduced to a minimum, while sensitizing to horse-serum in a large number of unnecessary cases is avoided.

In hospitals, this test is of great practical utility, as by its means internes and nurses about to enter upon duty in contagious wards can be tested and, if they give a positive reaction, can be assigned to other duty or protected either by injecting a prophylactic dose of antitoxin or by active immunization according to the von Behring method.

In contagious disease hospitals, when there is overcrowding, making it necessary to place scarlet-fever and diphtheria cases in the same ward, prevention of cross infection is simplified by use of this test. Diphtheria patients

who have had scarlet-fever may safely be placed in the same ward with scarlet-fever cases, if the scarlatina patients selected show a negative Schick reaction.

One of the peculiar and interesting facts observed by Park and others in this country is that all the children of a given family almost invariably show the same reaction. They will either all be negative or all will show a positive reaction. It has also been observed in all reported series of these tests that the greatest percentage of positive reactions occurs between 1 and 6 years of age. Below one year the percentage is low, and from 15 years upward the percentage shows a steady decrease. This corresponds with clinical observations.

Recent experiments conducted in conjunction with use of the Schick test have given some interesting results concerning the efficiency of antitoxin when used by the different methods of injection. It has been conclusively shown that antitoxin injected intramuscularly is much more prompt and effective than when given subcutaneously, and it has been found that the value of the serum is increased tenfold when it is given intravenously instead of by the usual method.

## Intravenous Injections of Salicylic Acid and Guaiacol

An Experimental Investigation of Their Composition and Action

By CARL NIELSEN, Ph. C., Chicago, Illinois

Pharmacologist, The Abbott Laboratories

**I**N THE treatment of acute rheumatism and also of tuberculosis, a so-called "solution" of salicylic acid and guaiacol is being used to a considerable degree, so it seems, for injecting intravenously. Lately we have had several inquiries as to the formula and the method of preparing this solution, but the formula has not been made public by anyone using this treatment. However, according to the information we have been able to gather, the solution that generally is employed is believed to be composed, essentially, somewhat as follows: Salicylic acid, 100 to 120 grains; guaiacol, 50 to 60 minims; normal saline solution sufficient to make 8 ounces.

It is evident that a true solution of salicylic acid of this concentration (1:40) can not be prepared, for, this substance requires for solution not less than approximately 500 parts of cold water. It is certain, therefore, that to

the above mixture some substance is added that brings about a complete solution of the salicylic acid as the result of a chemical change. The results of my attempts made to discover an appropriate solvent are recorded in the following lines, together with the formulas suggested, based thereon. It is to be understood, of course, that no substance can be added to the liquid in which the salicylic acid is dissolved which will yield a true solution of this acid of greater concentration than approximately 1:500.

### Salts Increasing the Solubility of Salicylic Acid

Certain salts commonly are said to increase the solubility of salicylic acid to a considerable extent, notably sodium phosphate, ammonium acetate, ammonium citrate, and sodium borate. However, this statement is misleading, for the reason that the

solutions thus prepared no longer contain salicylic acid, as such, since a chemical change takes place, through which a more soluble salt of salicylic acid—a salicylate—is formed. For example, if we add 100 grains of salicylic acid to a solution of 300 grains of dibasic sodium phosphate (U. S. P.) in 8 ounces of normal salt solution, we obtain a solution of sodium salicylate and of monobasic sodium phosphate. If we use a corresponding quantity of ammonium acetate for the sodium phosphate, there results ammonium salicylate and free acetic acid; similarly with the others.

As the preparation is intended for intravenous injection, often in large doses, it is essential that the substance added to the normal saline solution in which the salicylic acid is "dissolved" be of such a nature that the resulting byproducts either are inert or of additional benefit.

We have prepared a series of "solutions" of salicylic acid and guaiacol in normal salt solution, by adding different substances, including dibasic sodium phosphate (U. S. P.), dibasic ammonium phosphate, sodium phosphate and glycerin, sodium glycerophosphate, ammonium acetate; besides, several others.

#### Sodium or Ammonium Phosphate the Best Aid to Solution

By testing each of these solutions physiologically, we have come to the conclusion that, if one desires to prepare the concentrated solutions of salicylic acid by adding a chemical agent, either the phosphate of sodium or that of ammonium seems to be the one to be preferred, for the reason that the respective monophosphate formed in this connection in addition to the salicylate, does not interfere with the action of the latter. In fact, the orthophosphate of sodium and of ammonium, whether mono or dibasic, when injected intravenously into dogs and rabbits, produced no visible change in the animal's condition, even when administered in relatively large quantities. Neither did these phosphates change the blood pressure of a dog to any considerable extent.

Symes and Gardner, in their article on the toxicity of sodium phosphate administered in food, published in *The Biochemical Journal* for March, make this statement: "We compared the activity of the phosphates, in solution, by intravenous injection, and confirmed the findings of earlier workers, viz., that the orthophosphate (of sodium) is relatively inert."

#### Some Suggested Formulas

With the foregoing observations, as a basis, we suggest the following formulas for preparing the compound solution of salicylic acid and guaiacol, for intravenous injections:

Sodium phosphate.....grs. 300  
(Or, ammonium phosphate,  
grs. 100)  
Normal salt solution.....ozs. 8  
Dissolve, then add  
Salicylic acid.....grs. 100  
Dissolve, then add  
Guaiacol.....gtt. 50 to . 60  
Shake thoroughly, then filter.

As explained, this solution contains sodium (or respectively ammonium) salicylate, sodium (or ammonium) monophosphate, and guaiacol in normal salt solution. Their physiological action is due to the salicylates and the guaiacol, while the phosphates practically are inert. It would, therefore, seem simpler to dissolve the quantity of the easily soluble sodium or ammonium salicylate, corresponding to 100 grains of salicylic acid, in 8 ounces of normal salt solution, then add the guaiacol.

Accordingly, such solutions were prepared and their physiological action compared with that of the above-mentioned salicylate-phosphate solutions. Their composition was as follows:

Sodium salicylate.....grs. 116  
(Or, ammonium salicylate,  
grs. 112)  
Guaiacol.....gtt. 50  
Normal salt solution.....ozs. 8  
Dissolve by shaking, then filter.

Each of these solutions was used in making intravenous injections into a series of dogs and rabbits, in the proportion of 8 fluid ounces to 130 pounds of body-weight. In the dogs, the injections were made into the cephalic vein (with one exception, in which the jugular vein was used) and were repeated twice, with 8-day intervals. In the rabbits, the injections were made into a vein in the ear. All injections were made very slowly, at a rate of one-tenth of an ounce per minute.

#### Symptoms Produced

The symptoms produced were the same for all the solutions, and may be described as follows:

Respiration and pulse were increased. Then followed general depression, muscular weakness, and slowing of the rate of the heart beat. The symptoms were strongest in the dog which received the injection in the jugular vein, and there occurred nausea and vomiting thirty minutes after the injection.

The rabbits, as a rule, were more susceptible than the dogs. In one rabbit, the hindquarters apparently were paralyzed immediately after the injection; but this paralysis lasted only a few seconds, and the animal recovered rapidly. In another rabbit, this same paralysis of the hindquarters occurred, and this one did not recover. The primary symptoms had been very pronounced in this rabbit, and from the time of the injection until death (in eight days), frequent involuntary passage of urine and feces was observed. The postmortem examination of this rabbit showed, however, that it had suffered from pneumonia and fatty degeneration of heart and liver previous to the injection. All the other animals recovered rapidly.

#### Little Effect on Blood Pressure

A test of the effect of each of the solutions mentioned on the dog's blood pressure also was made. The effect was the same for all of them. The injections which were made into the saphenous vein were followed first by a slight decrease and then by a slight increase of the blood pressure. Approximately half an hour after the injection the blood pressure was normal again, but the heart at this time was weak and dilated. Between one and one-half to two hours after the injection the condition was normal again.

In accordance with the foregoing, it may be said that the solution salicylic-acid and guaiacol by addition of the phosphate of either sodium or ammonium, as in the preceding formulas, or—still simpler—by dissolving the corresponding quantity of the salicylate and adding guaiacol to the solution may be used for intravenous injection. Or, the guaiacol may be replaced by the corresponding quantity of some other soluble creosote combination. Dr. Alexander Chittick, in his book, "Biochemistry and Physiological Therapeutics," gives the following formula, saying that he has used the preparation successfully:

Calcreose (calcium creosote).....	ozs. 2
Iron phosphate.....	oz. 1
Magnesium glycerino-phosphate.....	grs. 20
Potassium phosphate (dibasic).....	grs. 20
Sodium chloride.....	grs. 60
Sodium salicylate.....	grs. 200
Water.....	ozs. 32

This mixture is to be shaken frequently during twenty-four hours, and then filtered. The dose is 5 Cc. intravenously, repeated as often as necessary to effect a cure.

All these solutions of salicylates become yellowish-brown upon standing, which, however, can be prevented by adding, before

filtering, a trace of free salicylic acid to the solution and shaking.

[The experiments conducted by Mr. Nielsen were made at the suggestion of the editor of this journal, who has received many requests for information concerning the intravenous method of treating tuberculosis, as practiced by Baldwin, Henderson, Duket, and others. All these gentlemen employ a solution alleged to contain salicylic acid and guaiacol, and all refuse to give the exact composition of the mixture which they use. However, it is plain that the doses employed are enormous; indeed, this is frankly admitted by those using this method. The reaction is always marked, and sometimes so severe as to be alarming. There is often a decided rigor, some rise of temperature, and usually very free sweating. There is certainly a reasonable suspicion, amounting to actual fear on the part of some of us, that such heroic medication is not free from danger, especially when the patient is suffering from well-advanced tuberculosis.]

It was in order that we might have some basis for comparison, and some measure of the intensity of systemic action, that we asked Mr. Nielsen to make up solutions of varying formulas, and then to try them on dogs and other animals. The preceding paper is the record of his results and is presented for just what it may happen to be worth to our readers. Let them not assume, however, that, because a healthy dog showed no great signs of physical depression from the intravenous injection of a large dose of sodium salicylate and guaiacol, that an anemic, broken-down, half-dead consumptive can be given a similar dose with safety. We urge extreme caution, and small dosage to begin with, as well as great care in the selection of cases.

The intravenous treatment of acute rheumatism has much to commend it. This has already been described in CLINICAL MEDICINE. (See number for May, 1914, page 423.) As therein cited, Connor injected a plain solution of sodium salicylate, administering 15 to 20 grains intravenously every eight to twelve hours, injecting from a sterilized 10-Cc. all-glass syringe, each Cc. of his solution containing 3 grains of the sodium salicylate. Before administering, the skin over the flexed surface of the elbow is sterilized by painting with tincture iodine. The needle must have a fine, sharp point, the solution must be freshly made (filtered, of course), and it must be injected slowly.

Patterson prevers the following formula:

Sodium salicylate,  
Guaiacol,  
Glycerin, of each ..... Gm. 41.29  
Distilled water, enough to make.... Cc. 2000.00

Of this mixture, 75 Cc. is used, together with 125 Cc. of normal saline solution at a temperature of 100° F. This quantity contains approximately 23 grains each of sodium salicylate and guaiacol. It is allowed to run into the vein slowly, taking from five to ten minutes for completing the infusion.

Doctor Patterson says that occasionally patients complain of dizziness or sleepiness during the administration of this dose, and in

one case there was slight delirium. This dosage is much less than that employed by those using similar mixtures in treating tuberculosis. Patterson claims that it is very efficient in rheumatism. He uses it in the Metropolitan Hospital, on Blackwell's Island, New York. Patients are usually cured, he asserts, in from six to twelve days, while there is almost immediate relief.

Should any of the readers of CLINICAL MEDICINE try this method, either in tuberculosis or rheumatism, we shall appreciate a full and detailed report of the results obtained. We are here to help one another. Can we not all do our full share?—Ed.]

## Seminal Vesiculitis

By WILLIAM J. ROBINSON, M. D., New York City

Chief, Department of Genitourinary Diseases and Dermatology, Bronx Hospital and Dispensary; Editor of "The American Journal of Urology, Venereal and Sexual Diseases," and "The Critic and Guide"

SEMINAL vesiculitis, or spermatocystitis, is an inflammation of the seminal vesicles, either one or both. It is impossible to say how frequent this complication of gonorrhea is, because, if present in a mild degree, it may give practically no symptoms, and even if present in a fairly severe degree its subjective symptoms are confounded with or overshadowed by those of the posterior urethra and the prostate gland. It is only by a careful rectal examination that we become aware of its presence.

The most common cause—and by far the most important cause—of seminal vesiculitis is gonorrhea. An important predisposing cause is coitus during the acute or sub-acute stage of gonorrhea.

The symptoms, as stated, may not be distinguishable from those produced by the onset of an acute prostatitis. There is one symptom, however, which distinguishes it from the latter; that is, the ejaculations may be precipitate and the semen may be mixed either with blood (hemaspermia) or with pus (pyospermia). When the onset is very acute, the patient may feel nauseated, may vomit, and feel like fainting.

The diagnosis of a seminal vesiculitis is made (1) by rectal examination, (2) by examination of the secretion obtained by expressing, or "stripping," the seminal vesicles.

The examination by rectum is performed the same way as the examination for prostatitis, only here the patient must invariably assume a strongly stooping position, bending his body practically to an angle of 90 degrees.

The finger must be pushed in as deeply as possible, for, the seminal vesicles lie above the prostate gland and are directed outward. Sometimes the vesicles are situated so high that even the most expert finger cannot reach or feel them. Normal vesicles, particularly when empty (soon after coitus), can hardly be perceived by the examining finger, and, when felt, give the patient no pain; however, when inflamed and distended with secretion, they may be felt like two miniature tortuous "Frankfurter" sausages on each side of the prostate gland, and pressing on them causes the patient the most exquisite, the most sickening pain imaginable. Strong pressure upon an inflamed seminal vesicle is even more liable to induce syncope in the patient than is the massaging of an acutely inflamed prostate gland. There is one difference that I have noticed between the sensation produced by massaging a seminal vesicle and a prostate gland: the patient gets used to the handling of the latter, but never gets used to the handling of the former; he always has a sickish feeling after it.

To examine the vesicular secretion properly, so as to be sure that it comes from the vesicles and not the prostate gland, the latter first is massaged thoroughly, then the patient urinates, the bladder is washed out with a quart of boric-acid (2 percent) or mercury-oxycyanide solution (1:5000), then the bladder is filled again with warm boric-acid solution, the vesicles are massaged, and the patient empties his bladder. These washings contain the vesicular secretion, which

then is examined microscopically. Microscopic examination will show numerous blood- and pus-cells, deformed spermatozoa, gonococci and various other bacteria.

The greatest gentleness must be exercised in massaging the seminal vesicles. They are very tender organs, their walls are thin, and serious damage may be produced by handling them roughly. The suggestion, therefore, to employ a prostatic instrument, such as Feleki's finger, for massaging the vesicles, when the finger is too short to reach them, must be condemned unequivocally. We can never know just what force is being applied when we use a heavy steel instrument like the one named. There is great danger of rupturing the delicate wall of the vesicle.

I have already mentioned that in some patients the vesicles are situated so high or so out of the way that the most expert finger cannot reach them, and therefore cannot be massaged; but, there also are cases in which we can feel the vesicles very well and, still, by the most persistent massage, are unable to express any of their secretion. This may be owing either to the peculiar situation of the ejaculatory ducts or to their complete inflammatory occlusion. Massaging of such vesicles will, of course, do no good, and if

the symptoms which their inflammation produces are severe and do not yield to treatment they will have to be dealt with surgically.

The surgical operation consists in draining the vesicles through the vas deferens, as suggested by Belfield, of Chicago, or in vesiculotomy, as suggested by Fuller, of New York; however, as these are not operations for the general practitioner we will not use up space in describing them here.

The treatment of seminal vesiculitis is essentially the same as that of prostatitis: gentle massage, hot rectal irrigations, the thermophore, hot sitzbaths, and gonococcal or, preferably, mixed vaccines.

Vesiculitis is the longest-lasting of all the complications of gonorrhea. Annoying as prostatitis is, a seminal vesiculitis is still more so. It requires, indeed, an inexhaustible fountain of patience on the part both of physician and patient. Nevertheless, it must be treated, because inflamed and purulent seminal vesiculitis forms the chief source whence arise the various metastases of gonorrhea, such as gonorrheal rheumatism, gonorrheal myelitis, gonorrheal inflammation of the serous membranes, endocarditis, and gonococcemia.

## Epidemic Cerebrospinal Meningitis\*

By GEORGE H. CANDLER, M. D., Chicago, Illinois

Author of "Everyday Diseases of Children"

CEREBROSPINAL meningitis is one of the most fatal diseases which we have to encounter. It is not seen so frequently in the country as in crowded districts and among the illy nourished and poorly housed. From time to time, however, it breaks out where least expected and carries off children from the most carefully guarded homes.

The diplococcus intracellularis meningitidis is the undoubted cause. The mode of entry of the organism is unsettled, but it is supposed that it gains access through the cribriform plate; at any rate, the organism has so often been obtained early from the upper nasal passages that it would seem positive that this is the point of infection.

The disease, now regarded as communicable, appears at long intervals in the larger cities, disappearing as suddenly as it came. In remote hamlets, one, two, three or a half

dozen cases will be seen within a few days, and then for years there will be no sign of the disease.

In the winter or early spring months epidemics are most likely to appear; in the hot months there is almost a total dearth of cases. Children under two years of age are not subject to the infection, and one child may be stricken in a large family without any other member suffering. The meningococcus has been found in the nasal excretion of 50 percent of children examined during the first few days of the disease. A marked leucocytosis (15,000 to 30,000) obtains in all cases, the increase being chiefly in the polymorphonuclear cells.

### The Pathology of the Disease

The changes found after early death are slight; the meninges are inflamed, there is some serous exudation, and the cerebrospinal fluid is turbid or flocculent; there is also an

\*This article is reprinted from Doctor Candler's "Everyday Diseases of Children," a new edition of which has recently been printed. Price \$1.00. Address this journal.

increase in the amount. If the patient lives more than three days, quite uniform lesions are found at autopsy: the ventricles are distended, and abundant greenish fibrin is distributed over the base and anterior part of the brain, serum or seropus distends the ventricles, and the substance of the cortex is more or less reddened. Minute hemorrhages or even abscesses are found in the superficial layers, and cell infiltration is marked.

Changes in the cord are similar to some extent, but not as well defined. Enough has been said, however, to show conclusively that almost any treatment may prove useless, it being practically impossible to limit the infection before destructive changes have occurred in a vital center. Epidemic cerebrospinal meningitis is still known in some parts of the country as "spotted fever," but this term in the West describes mountain-fever, an entirely different disease.

#### The Access and Progress of the Attack

The disease may come on with lightning-like rapidity—hyperacute or fulminant form—a child, for instance, being well at 9 a. m., having nausea and headache at 11 a. m., some fever and vomiting at noon, becoming weak, semicomatose and with a temperature of 104°F. by 3 p. m., opisthotonos marked and temperature of 105°F. at 6 p. m., coma deepening and petechiae noticeable over the face and neck at 9 p. m. (temperature—rectal—106°F.), death at 2 a. m., preceded by convulsion. Such a case occurred in my own practice, and though everything possible was done (even to intraspinal injections of creolin and intravenous injections of colloidal silver) it was impossible even to limit the severity of the disease.

Other cases—ordinary form—present the following phenomena: Headache, frequent vomiting, increasing fever; prostration is very marked and partial insensibility may be present by the second day; there will be evidences of brain involvement before this, perhaps convulsions, delirium, hyperesthesia, opisthotonos. The temperature early may be 101°F., but it gradually rises to 104°F. The child complains of severe pains in the head and back of the neck, and often it bores its head into the pillow. Rigidity is quite marked in the ordinary cases, though in the fulminant type relaxation is as often noted. There will be a pulse-rate of 120-160, but it is extremely irregular. The respiration at times is shallow and quick, at others stertorous and tardy.

The typical eruption may appear or only a few spots will present; sometimes none whatever can be found. Tremors will be noted from time to time as the disease advances. By the fifth or sixth day the child will be rigid—resting upon the side with arched spine and flexed extremities—the bowels are constipated, vomiting is constant and prostration and loss of weight progressive.

At times remissions will lead one to hope that the worst is over, but in a few hours an exacerbation will threaten life. This sort of thing may continue from two to four weeks when, if recovery is to occur, there is a gradual abatement of all symptoms—the fever falling, the mind clearing, and food being retained. Finally, the child, weak and limp as a body can be, lies convalescent.

Cases running a febrile course of six to eight weeks are reported; I have not encountered any. It is not safe to consider the child well until the temperature has rested at or below 99°F., for several days, with the mind clear and perfect freedom from rigidity and vomiting.

Death, when it comes in the middle period, occurs during coma or after a convulsion; heart failure may cause death at any time; occasionally pneumonia hastens the end.

If these perils are avoided and the case runs three weeks, or four, sheer exhaustion may cause death. The patient is merely the shadow of a child, lying relaxed (or tense as a bow-string), with sunken abdomen and fleshless limbs, unconscious, feebly breathing and with sores (herpes) surrounding mouth and nose. The pulse can hardly be detected, the tongue is brown and dry, the eyes turned up so that the whites alone show. Here death comes suddenly and quietly—or with a last convulsive quiver. Strabismus, nystagmus, facial contortions, and paralysis of various muscle-groups may have occurred earlier; in fact, it is hard to say what may not occur during a prolonged case of cerebrospinal meningitis.

#### Kernig's Sign Constant

In all cases the urine is scanty, highly colored and full of glucose. Kernig's sign is constant; Babinski's reflex (extension of the great—and other—toes on tickling the sole) not always to be elicited. The reflexes generally are markedly exaggerated.

An intermittent type is seen in which the temperature chart resembles that of pyemia; chills and drenching sweats may occur also.

Finally, an abortive form occurs, occasionally toward the end of an epidemic.

Here the classical symptoms are present, but just as the disorder seems at its height a sudden change takes place, and within twenty-four hours the patient is evidently on the way to an early recovery.

#### Diagnosis in Doubtful Cases

In epidemics, diagnosis is easy, but in sporadic cases one must trust to the severe headache, high fever, stiffness of neck-muscles (opisthotonos), Kernig's sign, presence of petechiae, tremors, and early delirium or coma. Lumbar puncture will confirm the diagnosis: 2 to 4 drams of spinal fluid should be withdrawn, which will be found turbid (sometimes pus and blood are present), and the microscope will reveal the meningococcus in most cases.

Lumbar puncture is easily performed anywhere. Strip the patient's back and place him on the right side, with knees well drawn up, left shoulder to the front. With an aspirating needle, well sterilized, penetrate the canal between the third and fourth or fourth and fifth lumbar vertebrae. The needle is directed upward and inward, puncture being made one centimeter to the side of the median line exactly midway between the processes. At two centimeters in children (or a little deeper) the canal is entered, and the fluid should exude drop by drop. If failure occurs, withdraw the needle and make a fresh puncture. The fluid should be caught in a sterile test-tube. It may be necessary to clear the lumen of the needle. At this time, unless antimeningitis serum is available, it is well to inject 2 to 3 drams of a 1-percent lysol or creolin solution—or as much fluid as has been withdrawn.

#### The Problem of Treatment

In the fulminant form it sometimes seems almost impossible to accomplish anything—time is not given us. However, from 15 to 25 Cc. of serum should be injected (after withdrawal of an equal quantity of spinal fluid) at the earliest possible moment. The injection must be made very slowly and the serum warmed first to body temperature. Older children and adults require 20-25 Cc.; infants should not receive more than 15 Cc. Usually one such dose every twelve hours will suffice. The blood pressure steadily falls from 20 to 30 m.m.; the lower the pressure the longer the time necessary for injection. When it has been reduced 20 m.m., the administration of serum is discontinued. After each injection, there is, as a rule, a decided change for the better. The temperature often falls

2 to 3 degrees after the first dose and fails to reach again the high point; not infrequently no further elevation occurs. Delirium is dissipated and the pulse and respiration assume a more satisfactory character. The stiffness of the neck and limbs is perhaps the last symptom to show improvement.

#### Use the Antimeningitis Serum

Though there can no longer be any doubt of the efficacy of serum it is not always available, and, even where it is, cannot always be relied upon to control the disease alone. The wise physician will avail himself of this potent weapon and regard it as a valuable addition to his armamentarium, not as his sole reliance. The best results of all have been secured by the intelligent conjoint use of serum and definitely acting drugs.

The bowel should be flushed and elaterin, gr. 1-64 to 1-32—or elaterium, gr. 1-6—given half-hourly for three hours, with saline laxative draughts at short intervals. Every hour give calcium sulphide, gr. 1-3 (two granules), and echinacoid, gr. 1. Gelseminine, gr. 1-500, every thirty minutes for four doses, then hourly till temperature falls. It is important that meanwhile the patient should be in the wet-pack. Wet the sheet with a carbolated saturated solution of epsom salt and get the patient into it at the earliest possible moment. Medicines are given while the patient is in the pack. Ice-coils are applied to the head, hot water-bags to the feet. A full dose of pilocarpine may be given hypodermically as soon as the child is in the pack. After two hours remove the patient (unless the bowels are moving freely earlier), rub thoroughly with a rough towel and place in a clean bed.

After the patient has been made comfortable proceed to do lumbar puncture, and after withdrawing 15 to 25 Cc. of spinal fluid, inject an equal amount of serum, or, failing this, a 1-percent lysol or creolin solution at body temperature. Eight to ten minutes must be consumed in making the injection. Haste is dangerous.

If serum is to be used later, do not inject creolin or lysol, and always give serum the preference. If, however, it cannot be obtained within forty-eight hours, it will be wiser to rely upon the creolin. Rub in over the axillary and submaxillary glands half a dram of unguentum Cr  d  , or inject intravenously gr. 1-2 of collargol (colloidal silver) in the form of a 1:200 solution. I do not hesitate to use both measures. If lumbar puncture cannot be done, repeat the in-

travenous injection in twelve hours. Some excellent results have followed such use of colloidal silver.

It is best to choose rather carefully between aconitine, veratrine, and gelseminine. In markedly sthenic forms aconitine and veratrine will be given alternately, or together even, in fairly full doses "to effect;" in asthenic conditions, gelseminine and cicutine hydrobromide—given with due care—will produce better results. Small quantities of very thin gruel with barley water, milk and vichy, the prepared blood-foods or grape-juice may be given—iced usually. Nuclein here is of paramount importance: twenty drops may be given and allowed to be absorbed from the buccal mucosa every four hours. If the heart wavers, cactoid (gr. 1-64) will promptly improve its action.

Nothing more of rational character could be done for any patient than is here suggested, and, if the case can be seen soon and treatment is properly and boldly carried out, at least one-half of even the severe cases should be saved, but, too often, death is imminent when we reach the bedside.

#### Treatment of the Moderate Form

Here practically the same treatment is indicated, but we have time to get results, and usually in two to three days we have control of the case. The remarks already made relative to the administration of serum or injection of creolin or lysol apply here. The sooner lumbar puncture is done, if it is to be performed at all, the better the results to be expected.

Elaterin need not be used. Blue mass and soda, gr. 1-2 each, podophyllotoxin, gr. 1-12 half-hourly for four to six doses being efficient. Wash the bowl out first and every eight or ten hours subsequently. Saline laxatives as before. The wet-pack as needed, and inunctions or injection of colloidal silver once or twice each day, as symptoms may demand. I believe I saved one child's life with inunctions of modified mercurial ointment over the entire scalp (head shaved) and down the spine. Gelseminine and cicutine control spasm and photophobia; it is well to give fairly full doses at half-hourly intervals "to effect," then stop.

If vomiting is frequent, feed per rectum; peptonized milk, sanguiferrin, fresh beef juice, panopepton, predigested cereal gruel, and the like, with cracked ice, by mouth, if tolerated. Cold barley water with lemon juice *ad libitum*.

The buccal cavity and nares must be kept as nearly aseptic as is possible; use menthol

compound or any effective alkaline antiseptic freely with atomizer. In every case give one of the sulphocarbolates—or the triple salts—to maintain a "clean" alimentary tract.

Treated thus, most curable cases respond within the first week and it then only remains to prevent relapses and support vitality. Nuclein, calcium sulphide and echinacoid will have to be continued; epsom-salt sponging, the daily saline laxatives, and enemata will usually keep the temperature down to below 100°F. Colloidal-silver ointment is rubbed in daily. Cicutine and gelseminine are used if spasm and fever recur.

Absorption of exudate should be hastened the moment the acute stage has passed, and nothing has worked as rapidly in my hands as this formula: Mercury biniodide, gr. 1-64; iodoform, gr. 1-6; phytolaccoid, gr. 1-3; arsenous iodide, gr. 1-64; rumicoid, gr. 1-6. This should be repeated every three hours till slight signs of iodism or arsenic sufficiency are observed. Under the conditions tolerance is remarkable. Children under six receive half the above dose.

The physician who has tried old-fashioned methods with disastrous results may institute these measures with the assurance that they will prove successful in at least the majority of cases. Every procedure is based upon a clear conception of the pathological conditions present, and we have to do exactly the right thing at the right time (and several things together) in order to save life. Empiricism or experimental medication is worse than useless—it is criminal!

The convalescent stage requires close attention. Fresh air (change of scene), forced nutrition and massage are essential. A bitter tonic—quassoid, juglandoid, berberine—will be required for some weeks, before each meal, and the arsenates with nuclein (two granules) should be given after food. Calcium lactophosphate, gr. 1-3, may be given three times daily with cactoid, gr. 1-128, and sanguiferin, one dram, will be exhibited with meals. Digestion often is unsatisfactory; if it is, papain, gr. 1-3, should be exhibited with the arsenates. Cascaroid will prove a good laxative, though the anticonstipation formula is unquestionably often to be preferred. Do not give too much strychnine. If extreme nervousness or sleeplessness exist, push avenin and scutellaroid for a week or two.

In conclusion, let me urge the physician not to use opiates at any stage unless he has decided that death is inevitable—and we have no right to assume such a thing while there is life.

# Radiant Light and Its Therapeutics\*

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**I**T IS the purpose of this article to cover some of the principal points regarding radiant-light and heat therapeutics. Radiant light and heat may not be curealls for every disease, but they are very valuable adjuncts to other modern methods.

## The Lamps

There are various styles and sizes of incandescent lamps, as also of arc lamps. The latter have many therapeutic values, and may in some cases be preferable to the incandescent, but, from a practical standpoint, the incandescent light is superior.

Some consider that the small therapeutic lamps of from 32 to 50-candle-power have as much value as the larger ones, except that they do not cover as large an area at a time. This, though, does not seem to be so, judging from clinical observation, unless one be treating a very limited area, when 50-candle-power lamps give very good results.

The reflectors in lamps for therapeutic use should be built only from patterns that have been scientifically proved to be correct, as the value of the rays is greatly enhanced and the candle-power increased by being reflected in proper radiations. The reflection, instead of being by a parabolic reflector with one focal point, should be made by a corrugated reflector with conical sides, which projects lines in parallel and crossing lines of radiation, since it has two parallel fields of greatest brilliancy and intensity.

Carbon-filament lamps give a much greater proportion of heat to light than do the tungsten lamps. For some conditions, the great amount of light given from the tungsten lamp seems to make it preferable.

Recently there have been put on the market incandescent lamps giving from 500 to 2000 candle-power, having the tungsten filament in argon gas at atmospheric pressure. We are now using these lamps and like them far better than the old-style lamp.

The radiation of light from a carbon-filament lamp is about 1 1-2 percent, and the rest is heat, while the light from the tungsten filament and argon-gas-filled lamp is from 10 to 12 percent, and the rest heat.

## Therapeutic Value of Light and Heat

Radiant light and heat are best applied by means of the incandescent light, which fills the widest field of therapeutic indication. As it is deprived of the ultraviolet radiations, it can be applied for a longer time, without danger of producing the disagreeable hyperemia or of tanning the surface of the skin, which consequences interfere with the highest degree of therapeutic efficiency.

Many physicians seem to be of the opinion that "light is light," no matter from what source; but, spectroscopic analysis shows very great differences. It is now recognized by the best authorities on phototherapeutics that it is the yellow-green of the spectrum that is responsible for the nutritional influence light has in all poor metabolic conditions. Red light is irritating, nonactinic, non-germicidal, and stimulating; while the visible violet is just the opposite in its effects, being sedative, powerfully chemical, bactericidal, and hypnotic. Because of these facts, it is important that light used in therapeutics should contain enough red rays to produce the proper stimulation; enough of the yellow-greens to raise the percentage of the hemoglobin and thus increase its oxygen-carrying power; and should also be rich in blue-violets.

It can be seen that radiant light, to be of the most therapeutic value, should contain all of the full spectrum-rays that will go through an incandescent-lamp bulb. Ultraviolet rays will not pass through glass; and that is the advantage of incandescent lamps over arc lights. The wave length is so short in the ultraviolet rays that the skin is only superficially affected by them; besides, they seem to act as a barrier to other rays passing through the tissue, because of the pigmentation of the epidermis. Arc lamps, for this reason, are not suitable for deep-penetration treatments.

As the wave lengths of colors increase and the frequency of their vibration diminishes from ultraviolet to infrared, the penetration increases down the scale, while, conversely, it becomes more and more superficial in ascending—in other words, penetration is inversely as the frequency and directly as the wave length.

\*Read at the 24th annual meeting of the Southern California Homeopathic Medical Society, held at Los Angeles, October 14, 1914.

### Effect of Colors

1. Red weakens the processes both of assimilation and of disassimilation.

2. Green light stands lower than white in regard to the accumulation of nitrogen, as well as to qualitative metamorphosis. Destructive changes proceed more vigorously in green light.

3. Yellow and violet lights induce the maximum of energy in all the vital processes, more complete metamorphosis prevailing under the influence of violet light.

4. Darkness causes a diminution in the exchange of nitrogen in the body, and nitrogen instantly diminishes in the daily amount of urine.

5. Light containing the full visible spectrum gives the best general therapeutic results. This can be proved clinically.

It has been observed that workmen who are compelled to labor in red-lighted rooms suffer from intense nervous and mental excitement and have a tendency to be quarrelsome. Red shades and draperies have an irritating effect upon the inmates of a place so decorated. This can be explained by the weakening influence of red light upon the processes of assimilation and disassimilation. The state of excitement of delirious patients who are put in a red room is greatly increased. In several instances, smallpox patients who were kept in a red room begged to be taken into the light, as their mental distress was so great. Some suffer from delirium and frightful hallucinations, which at once pass away when they are carried into white light. It is popular knowledge that a bull, as also some other animals, will become furious when seeing red objects. From these facts, it would seem that the frequencies of the red-ray region are to be regarded as dynamic and excitative to the nervous system in general, especially to the psychic functions.

The effects of colored lights upon nervous individuals are well known. This effect of light upon the mental and moral condition of individuals explains to a great degree how certain people have a longing for certain colors and exhibit it in their mode of dressing. There is on record a case of a lady physician, extremely anemic, who had a constant desire to have red clothing, while before her sickness she always wore black. Upon the restoration of her health, she no longer had the craving for red colors.

Colored light seems to exert its influence largely through the cerebral cortex, as has been proved by several experiments upon dogs. Ballini says that the quieting action

of light undoubtedly in part is due to a direct action upon the peripheral nerve-endings, and is an effect of the chemical-light-energy upon the tissues and its absorption by the blood. The same writer says that the action of red light upon the brain is brought about through the eyes, and the intimate connection of the latter with the brain, through the optic nerve. Where there is exposure of large superficial areas of the body to the action of intense light-energy, there results an increased flow of blood to the superficial vessels and a decreased flow to the internal organs.

Exposure to the action of light gives rise, physiologically, to movements by reflex as well as by direct action upon the tissues of animals (sneezing, for example). According to certain experimenters, the circulation of the blood both of men and dogs is markedly changed by the irritation caused by the exposure of the eye to the energy of the green spectrum-rays. Burt found that a chameleon blinded in one eye became paler in color on the whole corresponding side of the body. Thus it is seen that the reflex action, by means of the skin and eye, effects the change of matter.

Although red is spoken of as a warm color, blue as cold, yellow as cheerful, and green as restful, yet, there is a difference in the way different people are affected—one may be pleasantly impressed by a certain color, while another is affected oppositely. This would indicate that some are in tune with certain ray-frequencies, and others, with certain other frequencies, pointing to an inherent condition in constitution.

Upon the mind of man and his consciousness, no natural phenomenon produces so pronounced an effect as does light. It not alone is physical food, but mental also. Goethe, in his "Farbenlehre," called attention to the connection between colors and certain emotions. He observed that red and yellow light-energy exercised a bracing effect, while green and blue were depressing. These same observations have been made by others. There is no question as to the influence of sunlight upon the spirit of the individual.

### Influence of Light-energy

The influence of light-energy upon the respiration, pulse, and temperature has been found to be as follows: When the nude body is exposed to light-energy from a 500-candle-power lamp, the pulse dropped, while its volume was augmented in every instance. In every observation, there was a rise of temperature ranging from 1-10 to 1 degree.

Féré found that respiration was 19 to the minute in yellow light; 17, in green; and only 15 in red; and, also, that under the influence of red light the pulse becomes fuller and slower.

Our suppositions concerning the influence of light-energy upon the human organism rest largely upon hypothesis, but, judging from its action outside of the living organism as well as from its known effect upon plants and the lower animals, a certain amount of speculative theory is permissible. Its mode of action upon the skin is firmly established. The well-known physiological effects of stimuli, chemical or mechanical, in exciting either direct or reflex nerve phenomena, in relieving local congestion and influencing absorption of inflammatory products, need only to be mentioned to indicate that, if no other interpretation be offered for the action of light upon the living being, this action upon the skin offers a rational explanation of many of the phenomena produced through this agency.

The sympathetic-vagal reflexes prove in a more scientific way than any other the effects of radiant light and colors upon the human organism.

#### Blood Absorbs Light

It is evident that blood absorbs light to a very great extent, and in a somewhat peculiar manner. This is shown by the characteristic absorption-spectra of greenish-yellow obtained by Seyler and in the blue-violet obtained by d'Arsonval. It is further emphasized by the experiments by Freund, made by determining the degree of penetration of the ultraviolet frequencies. It has been shown by Quincke that hemoglobin gives off its oxygen more quickly in the light than in the dark. This proves that light-energy increases the oxidizing power in the living organism.

That light-energy influences the oxidation of the tissues, is the consensus of opinion, and it is generally believed that this is owing largely to a direct action upon the blood itself.

According to Moleschott, the amount of carbon dioxide eliminated is in direct ratio to the intensity of the light. This gives a rational explanation of the marvelous effects of powerful light and heat upon intoxications and any disease producing a profound toxemia.

#### Physiologic Effect of Light and Heat

All repair is made through the blood current; consequently, any agency that will affect the circulation may become of therapeutic value. Inflammation, which some

call disease, is only the voice of Nature calling for help in conquering the enemy. Germ invasion is met by this phenomenon of inflammation, and upon the fact as to whether the individual's opsonic index be high or low depends the victory.

There probably are no more potent agencies than radiant light and heat capable of aiding Nature in this great fight. It is not anti-phlogistic remedies that Nature calls for, for they really operate against the end to be attained. Radiant light and heat are truly homeopathic so far as the maxim of "*similia similibus curentur*" is concerned, but not as regards dosage. Nature can make use of large doses of this agency; but not too large, since an excess of light stimulus is destructive and paralyzing. If too much be given under the wrong conditions, we have death of tissue or impairment of function; so, judgment and skill must be exercised, as in the case with all other remedial measures.

When we gain control of the circulation, we nearly have gained control of the disturbing element. Rational practitioners no longer treat the disease, but the symptoms-complex; and on no other remedial agencies can we rely more for this than on radiant light and heat.

As far back as history takes us, primitive man used light and heat as healing-agencies. Some of the first methods and conceptions seem to us crude, but they were not any more so than are many of the medicinal means taught in some medical colleges at the present time.

Since Finsen's time, the medical profession has looked upon light from a more scientific standpoint. We all are familiar with the fact that light and heat will produce a hyperemia and, if carried further, an inflammation. We cannot have inflammation without stasis, and, to relieve the one, we must remove the other. It is not rational to expect to do this entirely by means of drugs without depressing the whole system, as is done by stimulants and cathartics.

Mechanical agencies, such as light, heat, electricity, concussion, and vibration, seem to be the most potent factors for relieving stasis, and of these perhaps light and heat are the foremost. They dilate the capillaries, enliven the circulation, open the sweat-glands, and induce active metabolism, thus restoring the circulation and instituting prompt repair. They destroy germ processes, either by killing the offenders in situ or by raising the opsonic index. Inhalation of oxygen or oxygen-vapor generated in a suitable apparatus, seems to have this same effect.

The profound effect of radiant light and heat upon the body can be proved scientifically by the sympathetic-vagal reflex.

*The effects upon metabolism, local and general, are owing to:*

1. Increased local activity of elimination and tissue building.
2. Diffusion of heat by the channels of circulation.
3. Increased general perspiration.
4. Increased oxidation.
5. The local action upon the blood in the dilated capillaries.
6. The effects upon the remote spinal centers, owing to stimulation of the peripheral end-neurons.

*The effects upon simple inflammation are:*

1. To induce relaxation of tissue, with relief of pressure and pain.
2. To increase local metabolism and elimination, so as to relieve the tissues of the products of defective metabolism.

3. To remove early stasis in conditions of mild traumatism, and to cure the condition if treated promptly after injury.

*The effects in acute and sub-acute infectious conditions are:*

1. Increasing local hyperemia and relatively increasing phagocytosis at the site of infection.
2. Inhibiting activity of the micro-organisms.
3. Inducing perspiration and tissue oxidation, thereby stimulating elimination.

*The derivative effects when extensive exposures are made over the entire body are:*

1. Lessening the quantity of blood in the congested regions.
2. Lowering arterial tension.
3. Relieving the overworked heart.
4. Eliminating of products resulting from impaired metabolism.

*(To be continued.)*

## The Lumbar Misery

Chapter Three in "Lens, Reagent & Co."

By B. G. R. WILLIAMS, M. D., Paris, Illinois

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MY FIRST intention was, to name this story the "Lumbar Mystery," for such it had been to several physicians. The patient, however, not only complained of the miserable sensations, but of the miserable guesses made at the diagnoses. He, in turn, had made life miserable enough for all men who had been consulted, and I think that, after all, the title is not a bad one.

Appendicitis was the first guess—that was before the man had a back. Appendicitis it was diagnosed, because of pain in the right groin, with fever and so on. But a higher fever, with abatement of local symptoms, led to the patient's being "threatened with typhoid fever," then, being assured that it certainly was typhoid fever, and finally being dismissed in ten days, with a decision of "aborted typhoid."

"Doctor, I believe I have the typhoid again," explained the man two weeks later, "and it certainly is abortion-typhoid this time; for, the pain has settled in my back." Fever accompanied this second attack.

In five successive urine-analyses routinely carried out for sick persons, nothing of diagnostic importance may be found, and, yet, in the case of the sixth patient—so great is the value of the uranalysis—the positive

result may well repay the physician for the trouble taken with the other five. Many a battle is won, not in being victorious, but by avoiding defeat. A diagnostic triumph rarely gains reputation for a physician, but, rather, it is the many maneuvers, much less brilliant, that he makes to avoid errors in diagnosis. A doctor's mistake, when manifestly stupid, constitutes a more dainty morsel for the gossips than is a demonstration of his diagnostic ability and sapience.

Of course, the condition of the urine in the case cited above was eventually investigated; still, how much better it would have been for all concerned had the examination been made before the attending physician committed himself to his first stupid diagnoses. If the testing of the urine were to make up a part of the examination of every sick person, we should see fewer kidney-patients operated upon for appendicitis or placed upon a typhoid-fever regimen. In the present instance, the patient's urine showed pus. To continue the misery-part, I will say that immediate operation now was insisted upon and a surgeon was called in. But this surgeon hesitated, after having carefully looked the patient over.

"But, certainly, this is a case either of stone or of tuberculosis," insisted the patient's physician. Nevertheless, the surgeon wanted a skiagram. The patient balked (as patients sometimes do), but his misery grew so demanding that eventually he bore the expense. There was no shadow thrown by the kidneys.

#### "It Certainly Is Tuberculosis"

"Then it certainly is tuberculosis," concluded the physician in charge. The surgeon, still unconvinced, begged that some laboratory examinations be made.

"Nonsense!" again objected the internist; "why put this man to further expense? He cannot raise over two hundred dollars, and that barely will cover the cost of the operation. A drop of alkali added to this urine shows that pus, pure and simple, is present. This man undoubtedly has a tuberculous kidney, and it should be removed."

"Still, there is no loss of flesh," suggested the surgeon.

In many cases, operation for removal of a tuberculous kidney should be undertaken when it is fairly certain that the diagnosis is correct. Of course, if the operation shows absence of tuberculosis, the person operated upon can not be "unoperated." But suppose, as often happens, that the physician is denied operative interference after he has committed himself to the opinion that recovery without operation is impossible, the patient, nevertheless, recovers—then what? And I hasten to say that such patients often do get well without operation, even though, perhaps, tuberculous.

"Operating" did not sound good to this patient, and I surmise that he would have refused operation until miseries multiple drove him in panic to the table. Now, this patient, much to the disgust of his regular physician, caught at the suggestion of the surgeon like a hungry bass jumps for the bait, and laboratory studies were begun. What, now, was found in this urine?

Pus was present, to be sure, and it was so plentiful that it interfered with the searching for more important findings, so that several specimens were examined for casts, renal cells, and so on, that possibly might be obscured. In the meanwhile, the patient began to complain of vesical symptoms, and for a short time this so misled the physician that he was inclined to call the whole thing off, call the trouble "cystitis" and begin to irrigate the bladder. But, then, the acid reaction of the urine emphasized this error of diagnosis

before the patient was taken into confidence in this latest misery.

Careful examinations demonstrated the pus to be of a polymorphonuclear type. While this proved nothing conclusively, it did seem that in a pure tuberculous infection there should be present some mononuclear cells.

Simple and special staining of smears failed to demonstrate the bacillus of Koch. Large numbers of Gram-negative short bacilli were present, and hanging drops showed these to be feebly motile.

#### Not Tuberculosis After All!

So certain, however, was the physician, of his diagnosis of tuberculosis of the kidney, that two guinea-pigs were inoculated. And these inoculated cavies promptly succumbed to colon-bacillus peritonitis. There, now, I have given away the proper diagnosis! I believe that the animal-inoculations were not, really, in order, for the reason that tuberculous urines apparently generally are sterile. Simple smears of fresh samples already had hinted at what might have been expected from the injections of the cavies.

Then, at last, an attempt was made to grow and isolate the colon-bacillus—but this should have been done long before. The offending bacilli were demonstrated with ease.

Now to the denouement. This sick man was *not a man, but a woman*. Of course, I should have stated this at the beginning of my story, but many of my readers would have guessed the solution before the psychological point was reached, and that never would do in a detective-story. The fact that his patient was a female inevitably should have led the attending physician to suspect colipylitis.

A woman who has pain in the back, fever, bladder symptoms, but is losing no flesh, *may* have tuberculosis of the kidney, but only in perhaps 1 case out of 100; the other 99 should set the physician on the trail of the colon-bacillus.

Some patients with colipylitis must submit to operation, but not as a rule. The one under consideration improved promptly under proper medical measures.

#### The Management of Colipylitis

Let us consider for a moment the line of treatment most efficient in colipylitis. To begin with, absolute rest in bed is the best of all measures. It is as important as is the rest-treatment of hyperthyroidism and of the acute fevers. It is very difficult to convince the woman that she must not scrub, iron or wash until free from all acute symptoms.

Words avail nothing with the high-school miss, as a rule, so that only her growing invalidism at last compels her to "give up" and go to bed; and only then can she get relief. Shop-girls and school-teachers frequently are compelled to lay off from work, whereupon they promptly recover. However, relapses after uncommon exertion—house-cleaning, a motor-car ride, a ball—are not uncommon.

The hexamethylenamine treatment rates next in importance, and it should be combined with rest. Small doses are inefficient; 15 grains three times a day is the correct dosage.

The urine must be acid, else the bound formaldehyde cannot be set free in it (nascent); hence, if the urine is alkaline, it should be rendered acid by administering diacid sodium phosphate, which supplies the normal acid reaction of the urine. I take considerable satisfaction in making the foregoing statement now; for, I made this suggestion some two years ago and then urged manufacturers of pharmaceuticals to supply this salt for the use of practitioners. However, I was rebuked and told that benzoic acid was good enough. Now they "all are doing it"; that is, are making the diacid sodium phosphate into tablets, and are taking the glory to themselves.

Hexamethylenamine should not be given in this large dosage, though, for more than three days at a time. This leads to the question of the alternate treatment devised by me several months ago, which runs as follows:

For three days, give 15 grains of hexamethylenamine three times a day, seeing to it that an acid urinary reaction is maintained. For the next three days, leave off the hexamethylenamine, and, instead, give alkalis in sufficient dosage to keep the urinary reaction intensely alkaline (this constituting a medium almost incompatible with a vigorous growth of the bacillus coli communis). Then, during the next three days, the acid-urotropin (i. e., hexamethylenamine) treatment is again pushed, followed by the alkali course. And so on.

*The alternate treatment, combined with absolute rest in bed, will effect a prompt cure of practically any case of pure colon-bacillus infection of the kidney when it has not already proceeded to abscess destruction of the kidney-parenchyma.*

I devised this treatment after observing that patients, when the urotropin treatment failed, responded nicely to alkalis; and vice versa. It promises to be of some use in other urinary infections, as well as in colipyelitis; possibly in a deep-seated gonorrhea, less likely in simple urethritis.

#### As to the Vaccines

Vaccines are remarkably efficient—on paper. Now, I have studied quite a few cases of colipyelitis and observed the treatment, but I never have seen any benefit to come from the use of colon-vaccines. The exalted strains change immediately to the ordinary type after their removal from the living tissues. Even as certain nonpathogenic properties are promptly regained, so are other pathogenic properties (immunity-producing) lost, and bacterins produced from it vary in no way from those constantly present by virtue of the residence of the colon-bacillus in the bowel, as well as its life's activities and death in that location.

In the above case, we could not have positively ruled out surgical kidney, save as we did so by the therapeutic test. Renal tuberculosis may have coexisted (though it rarely does) with, or else have complicated, the colon-bacillus infection; this latter infection may have progressed to abscess kidney destruction or a stone may have been found, the result of a continued infection. In our case, however, the findings certainly did justify expectant treatment and the pushing of non-surgical measures. This woman (as have many others) recovered promptly under the rest and alternate-medication treatments outlined, and was spared surgical intervention.

Come to think of it, I am inclined to think that I selected the wrong title for this story, after all, for, to have cut down upon a healthy kidney would have been a real misery, indeed. This woman was so glad to have been spared the operation that she forgave the several blundering diagnoses. A portion of her kidney may possibly have been destroyed; but, I have seen some persons similarly affected operated upon, and, so, I doubt it very much. Granted that half the diseased kidney remains and is working (in spite of the original desire of the physician to remove it). We have fairly good clinical proof that every renal cell spared means an extra hour of life and health; and one and one-half kidneys are a lot better than just a single one. Moreover, when one kidney is thoughtlessly removed, the colon-bacillus infection may promptly attack the other; and then the situation becomes serious, indeed.

In this story I have told you of a surgeon who, happily, was more than a mere operator. In the next, I am going to tell you of an experience with one who was not. The subject of the next story will be, "Thou Shalt Not!"

# About the Alkaloids and Other Active Principles

By GEORGE L. SERVOS, M. D., Reno, Nevada

Editor, "The Western Medical Times"

**T**IME was, and not so very long ago, that he who even so much as intimated that he employed either the alkaloids or other active principles of plant-drugs met with ridicule amounting almost to scorn. But now, how these remedies are coming into their own! No longer is the alkaloidist looked at askance—and that simply because practically all practitioners are coming into his ranks and following his precepts.

When the alkaloids first were introduced, the majority of the medical profession offered various objections, saying, for instance, that they are "too potent," that they represent a "new school of therapeutics," that they would have to "learn the materia medica all over again," or that they involve "too much of a radical change." Many other objections were voiced against this novel active-principle therapy. It took some nerve for anyone to introduce the idea in America, despite the fact that this mode of treatment had been enjoying considerable popularity in several European countries for some years past.

But today, what do we find? Even those journals that a decade ago considered active-principle therapy more or less a joke are now giving it serious attention. Even the so-called "authorities" are taking the use of these principles seriously, and it is the rule, rather than the exception, to find them discussed in textbooks, both on materia medica and practice.

As a matter of fact, despite the earlier contentions, there is not much to be learned, new in character, with regard to the active principles—just a few names, and then their dosage (a simple matter), and that's all. The applications of the alkaloids and active principles in general, of course, are identical with those of the parent drugs, the one meeting the indications of the other.

But, as for the active principles, they serve the purpose better than do the whole-parent drugs: first, because they are pure, definite, chemical substances, not associated with other constituents of the plant, which sometimes act in an inhibitive way; second, because they invariably produce a better effect, that is, a more direct effect, than do the whole-plant drugs; third, because the control of dosage is more scientific.

## "Small Doses, Frequently Repeated"

Soon after the introduction of the active principles, the system of small and frequently repeated doses was established, and this manner of using them undoubtedly has had much to do with the good results obtained. By means of this system, it is easy to keep the patient continually under drug-effect, and that without fear of overdugging him. Also, the small, repeated dose practically has overcome that condition known as idiosyncrasy: the patient becomes accustomed to the drug, so that there occurs no drug-anaphylaxis so frequently encountered under the customary system of physiologic dosage. Another advantage is, that the drug-effect is not lost through long intervals between doses, as ordinarily administered.

The active principles have had much to do with establishing the principle of meeting single indications with single remedial agents, so that the "shotgun" prescriptions of our forefathers no longer are popular, even among those who have not taken up the positive active-principle therapy. A few years ago, practically all the textbooks on treatment were filled to overflowing (providing they expressed a belief in drug efficacy at all) with long polypharmaceutical prescriptions directed against diseases as a whole, and with but little regard to single indications. Today this is changed. The list of drugs given is not so long for a disease, and we are being told to treat diseases symptomatically, to a considerable extent. In other words, therapeutics today is on a more rational and scientific basis.

It has been said that we have no specifics, with possibly one or two exceptions. This probably is true, when we consider any disease as a whole; nevertheless, the practitioner who employs the active principles has found out many specifics for single indications. And it has been very largely through the findings of these clear-eyed clinicians that drug-therapy has become rationally scientific.

Then, there has been the insistent assertion that most of the acute infections are "self-limited" and that recovery or nonrecovery will occur regardless of any interference upon the part of the doctor; that his was merely a watchful-waiting game.

But, is this true? Have the active-principle therapists not proven the fallacy of this doctrine? I believe they have. Did you ever push colchicine to effect in rheumatoid affections and see the disease conquered in a miraculously short time? Have you ever given veratrine, with or without aconitine, to your pneumonia-patients and seen them recover as if by magic and in a much shorter time than that accepted by the "limitation" rule?

Now, let us see what can be done with the alkaloids and other active principles in combating the diseases of the season, namely, those of the heated term.

#### Positive Active-Principle Therapy in Hot-Weather Diseases

*Cholera morbus* follows the ingestion of uncooked fruits and other intestinal irritants during the summer months. Of course, the first indication is, to clear out the alimentary canal; but, as we have more or less pain to contend with, our patients demand that this be relieved. If severe, H-M-C, administered hypodermically, usually meets the indication. Or, if anything is retained by the stomach, the H-M-C modified or chlorodyne granules may be given to effect. With the acute condition controlled, the zinc and codeine compound, alternated with strychnine and hyoscyamine, not only will serve to keep the bowel clean, and thus overcome any tendency to recurrence, but acts as an antispasmodic. It is well, in most cases, to flush the lower bowel with a solution of the combined sulphocarbolates. Following the chemical antiseptics, the Bulgarian bacillus cultures work well, the lactic-acid organisms tending either to inhibit the action of pathogenic organisms or to destroy them.

*Cholera infantum* is another condition confronting us during the "dog-days," and it calls for prompt treatment. Hyoscyamine or atropine, or Candler's calmative should be given until we observe reaction; the effect desired being, to overcome spasm and to equalize the circulation. In these cases, the sulphocarbolates invariably are indicated, particularly the zinc salt. The latter should be pushed to full effect, following calomel, if the bowels are too active; if not, either copper arsenite or copper sulphocarbonate act well as intestinal antiseptics, but remember that they must be pushed to full effect.

To establish reaction, nitroglycerin frequently is indicated. Aconitine meets the indication if there is much abnormal temperature; if the heart flags, give caffeine.

Nuclein almost invariably is indicated. It induces leukocytosis and in that way reinforces the patient. Bulgarian bacillus, either alone or with food, practically always is indicated, in that it assists in getting rid of all pathogenic organisms that may be present. Other remedies are indicated in certain individual cases; however, it is not the purpose of this paper to discuss treatment in full, but merely to indicate briefly what active principles enter into the problem.

*In rabies*, although the Pasteur treatment seemingly is specific in the majority of cases, sometimes drugs are positively indicated. If the disease goes on to convulsions, H-M-C and gelseminine hydrobromide, used in conjunction, not only act as anticonvulsants, but the latter reduces the hyperemia of the brain and spinal cord. Cannaboid is another anticonvulsant that has its indications. To induce leukocytosis and thus enable the patient better to combat the infection, nuclein and, to build up the nervous system, lecithin, invariably are indicated.

*Sunstroke* is a condition calling for symptomatic treatment exclusively. If we find the patient with a high temperature and an unstable circulation, one without balance, then aconitine, glonoin, and strychnine are primarily indicated remedies, but they must be pushed to effect. If the congestion is extreme, put the victim in the cold-pack or ice-bath; and here veratrine meets the indication, through its relaxing effect upon the capillaries. Nearly always, free purgation with elaterin or elaterium, followed by a laxative saline to effect, is indicated.

If the temperature is low and there is much exhaustion, apply cold to the head and heat to the extremities, and give caffeine and cactoid, to support the heart; and there possibly may be indication for digitalin and strychnine.

Apomorphine, 1-16 to 1-12 grain hypodermically, or lobeline sulphate, either to full relaxation, are asserted to give good results in some instances. Lobeline undoubtedly is of use in many of the congestions accompanied by spasm, and it probably will gain greater popularity in proportion as it is accorded more attention.

*In thermic fever*, quinine in small dosage meets the indication. Aconitine, if employed at all, should be watched carefully, as its effect upon the heart in this condition is not at all satisfactory. To give tone to the heart, prescribe digipoten or digitalin.

*Diarrhea*, either the simple variety produced by some kind of irritation or that associated with some other disease, is a

common condition during the heated term. Time was when the patient was given something to "lock up the bowels" and told to go, only to return to the doctor with one relapse after the other. Today, we treat the simpler forms differently. Recognizing that there is in the bowel some sort of irritant the latter is immediately cleaned out, and as completely as possible. First calomel, to the extent of 1 or 2 grains in broken doses, is administered, and this followed by a laxative saline or castor-oil to full effect. In some cases, this is supplemented by enemas.

Following the clearing of the bowels, the combined sulphocarbolates are pushed to full effect, or, until the bowel discharges become normal in every way. If there is either pain or tenesmus to any considerable extent, the zinc and codeine compound may replace the other sulphocarbolate compounds, or, if there is persistence of the discharge, larger doses of the zinc-salt may be added.

If there is local congestion, hyoscyamine or atropine may be indicated, as equalizers of the circulation, pushed to flushing of the skin. Not infrequently have I found a simple single dose of a laxative saline sufficient to overcome the acute summer diarrhea owing to the ingestion of some irritant food.

To restore tone to the bowel, it may be well to follow the specific treatment with juglandin,

with bilein added, to increase the flow of bile. Sometimes it may be necessary to give a dose or two of H-M-C or one of its modifications, to control excessive pain. I have found that, if the bowel is cleaned out promptly and subsequently kept clean, rarely, if ever, are recurrences of the simpler summer-diarrheas seen—not nearly as often as in former years, when I still was following the old-style treatment.

Undoubtedly I have not touched upon many of the seasonable complaints, but these examples are enough to call attention to the efficacy of the active principles, even though they have to be supplemented by other drugs. They show very conclusively the specific treatment of the intercurrent conditions found in the diseases mentioned; and what holds good here likewise holds good for practically all conditions encountered by the doctor.

If the indications are known—and they should be—it is my belief that somewhere among the alkaloids or other active principles we have some remedies that will act in a specific way. Please remember, I do not say that we have many specifics for diseases in their entirety; what I firmly believe is, that we do have specifics for the *intercurrent conditions*, for my experience has shown and taught me this.

## SOLSTICE

By Madison Cawein

*The ant is busy with its house,  
The bee is at its tree;  
And by its nest among the boughs  
The bird makes melody.  
The day, reluctant still to leave,  
Sits azure at its noon,  
Like some sweet girl, with naught to grieve  
Sighing a dreamy tune.  
Oh, hark, my heart! and quit your quest!  
The song she sings is one of rest.*

*The butterfly is on its flower;  
The wasp is at its clay;  
The wind to bramble lane and bower  
Whispers of yesterday.  
The afternoon goes to its close,  
With bright attendant states,  
Like some calm queen who seeks repose  
Behind her palace gates.  
Oh, look, my heart, your pining cease!  
That way, at last, you shall find peace.*

*The cricket trills; the beetle booms;  
The mole heaves at its mound;  
Pale moths come forth like ghosts of blooms;  
The firefly goes its round.  
Then Eve puts off her gown of gold,  
And for a moment stands  
Before her couch, a lamp of cold  
Moon-crystal in her hands.  
Oh, heart, go follow where it gleams,  
And find again your world of dreams.*

*The life that wakes at dark comes out;  
The spider nimbly weaves;  
The bat flies silently about;  
The drowsy outlet grieves.  
The Night goes stealing to her tryst,  
Breathing a fragrant sigh;  
One jewel from her starry wrist  
Drops down the quiet sky.  
Heart, let it be a sign to you  
Of Love behind the bending blue.*

# The Physician's Microscope

Its Construction, Preservation, Use and Application

By A. H. UHLER, M. D., Rochester, New York

[Continued from page 649, July issue.]

## How to Care for the Microscope

THE microscope should be kept under a glass when not in use, to insure freedom from dust. Whenever finger-marks are made on its lacquered surface, they should be wiped off at once or, after using, with a soft old silk handkerchief. If this is not done, the finger-marks will remain.

All oil-immersion objectives should be wiped and carefully dried, all cedar oil being removed before putting them away. I have seen the working distance of the oil-immersion abolished by dried oil adherent to the surface of the hyperhemispherical front lens. If this does occur, moisten with a little cedar oil and let it stand for about twenty minutes, after which a little zylol will usually remove it.

No alcohol should be used on oil-immersion objectives or on the lacquered surface of the microscope stand, for, in the first place, you may cause the front lens to drop out, and, in the second place, it dissolves the lacquer from the microscope, making it unsightly.

The optical parts of the microscope, apart from special accessories, are four in number:

The objective (object glasses)

The eyepiece (ocular)

The substage condenser

The mirror.

## A Description of the Objective

I shall give a description of the first three. The objective, illustrated in Figures 24, 25, 26, and 27, is a collection of lens combinations mounted in a brass tube, the objective mount having as its upper end a male thread popularly known as the society-screw or universal-fitting. It enables the objective to be attached to the nosepiece at the lower part of the body tube, where it is in position to perform its twofold function of magnification and resolution. The first process (magnification) is well known and needs no description, but the second property (resolution) is one that is not so well understood. It may be defined as that process whereby an objective has the power to grasp more or less of the diffraction spectra emanating from the object and depends upon the size of the numerical aperture of the system.

Objectives are divided into four great classes, which are named, in order, according

to the perfection of the corrections brought about by the computation, as follows:

Achromatic

Semiapochromatic

Fluorite-systems

Apochromatic.

These in turn may be *dry*, *water-immersion* or *oil-immersion*, and may be *fixed* in their mounts or *adjustable* by means of a correction-collar. Rarely other immersion media are used, as oil of anise, monobromide of naphthalin, chloride of tin in glycerin or pure glycerin, but practically all of these have fallen into disuse at the present time.

An achromatic objective is one that is corrected for primary spherical observation, secondary spherical aberration for the selected color and coma. A semiapochromatic is corrected for all of the above and spherical aberration for a second color and as well as possible for all colors. It gives equal magnification for all colors when a compensating ocular lens is used.

A *fluorite system* is corrected for all that the semiapochromatic is, and in addition it shows a considerably greater reduction of the secondary spectrum and a greater concentration of light in the image, due to the excessive transparency of the fluorspar used which passes more light.

The apochromat has all of the corrections of the preceding save that the secondary spectrum is, in this case, practically eliminated, i. e., the secondary spectrum is reduced to a point where it is practically invisible, a tertiary spectrum only remaining in some cases. The visual and actinic foci are also concentrated on one and the same point, which makes them invaluable for photomicrography.

It may be said for the benefit of intending purchasers that the prices for the different kinds of objectives as a rule vary in the following ratio:

## Properties Possessed By All Objectives

	Achromatic	Semi-apochromatic	Fluorite-system	Apo-chromatic
2-3	\$6.00 . . . . .	\$15.00	\$18.00	\$30.00
1-3	Not made . .	8.00	18.00	32.50
1-6	Not made . .	12.50	20.00	40.00
1-8	Not made . .	12.50	26.00	45.00
1-12	\$25.00			
(1.30 N. A.)		40.00	54.00	100.00
1-16	Not made . .	40.00	60.00	110.00

There are certain properties possessed by all objectives; they are as follows:

- a. Numerical aperture, abbreviated thus, N A.
- b. Working distance.
- c. Focal distance synonymous with initial magnification. We say this because a certain definite amount of one being present indicates a corresponding amount of the other.
- d. Real field.
- e. Cover glass correction.
- f. Depth of focus dependent upon N A, initial magnification, and the like.

The numerical aperture of an objective is a mathematical expression originated by Prof. Abbé, represented by the formula  $NA = \text{Asine } k$ , where A represents the refractive index of the medium intervening between the objective front and the upper surface of the cover glass and  $k$ , one-half the angle of aperture. Or, N A may be spoken of as the ratio of the semidiameter of the exposed portion of the back lens to its focal length. Upon the size of the N A depends the extent of the resolution of any given objective. And the size of its N A is usually an index of its price, the larger apertured objectives being more expensive.

#### The Working Distance

The working distance is the distance between the lower surface of the objective, be it the front hemisphere or the mount at its periphery, and the upper surface of the cover glass for which the objective is corrected, usually 0.17 mm. when the objective is in focus on an object which is practically infinitely thin, and in optical contact with the lower surface of the cover glass, the correct tube length being employed. In a 4-mm. dry objective of 0.75 N A intended especially for use in examining sections of tissue and blood-counting with the haemacytometer, a millimeter of working distance should be required. In fact, if a 1-12-inch (1.8 mm.) oil-immersion objective is being used, the 4-mm. dry objective with this long working-distance should always be used to the exclusion of the higher apertured combination, as these high-apertured dry objectives do not work well with critical light, nor do they have so brilliant a definition as their lower apertured competitor.

Further than this the writer is at a loss to know why a true quarter dry-objective should not be employed with a little larger aperture, say 0.82 N A, in place of any of these sixths and yet with a good long working-distance. I fear some of our good physicians

in the past have deceived themselves, thinking by the employment of the sixth they would have a greater revelation of detail. However, a moment's thought will show that this is not the case.

Therefore, I suggest the substitution of the 6 mm. in place of the 4 mm., which could be made at less cost.

Focal distance is the distance compared with that of a simple lens of the same power. A 1-2-inch objective on a 10-inch tube yields 20 diameters; a 1-3-inch, 30; a 1-4-inch, 40, and so on.

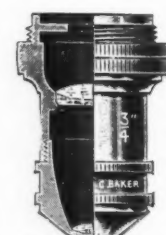


Fig. 24. A low-power objective.

A 1-2-inch objective on a 160-mm. tube would yield an initial power of 13 diameters. So the tube-length regulates the initial power of the objective as well as its focal length.

#### The Field of an Objective

The real field of an objective is represented by a small circular area of the object which is included in the image during observation. In low-power photographic objectives we probably have the largest real field, and this is the reason why the best photomicrographic stands are equipped with large body-tubes, so they will not impinge on the real field of the objective, thereby reducing its diameter. All objectives are corrected for a definite thickness of cover glass, usually 0.17 mm., as in the case of the homogeneous immersions. If the objective is in a fixed mount, it should always be used with the cover for which it is corrected, otherwise one might just as well buy a poorly corrected objective, for its definition will be ruined. I do not recommend a correction collar any longer, as it always wears loose, sooner or later, thereby decentering the combinations, causing a more or less one-sided blur to the image. I would suggest that high-power apochromats should be mounted fixed, instead of adjustable, as is usually the case.

Depth of focus (or depth of definition, as it is sometimes called) is of great use in an objective where sections are to be examined which have been cut rather thicker than they ought to be. As the majority of all sectioned histological and pathological specimens have this defect to a more or less pronounced degree an objective with considerable depth of definition is a real necessity. The smaller the N A and the initial magnification, the greater will the penetration of the objective

be, and it is well to bear this in mind when purchasing a lens.

#### The Homogenous Immersion Objective

In regard to the homogeneous immersion objective little need be said; it is so well known to most bacteriologists. We will say, however, for the benefit of those who do not know, that the best is that patterned after the German formula. These are made by Zeiss, Bausch & Lomb, Spencer Lens Co., W. Watson & Son, Reichert, Leitz, Himmeler, Winkel; and (according to my own tests) they are the finest oil immersion semi-apo-chromats in existence, only being exceeded by the oil immersion by fluorite-systems, Winkel, Zeiss, Himmeler, Bausch & Lomb Optical Co., Leitz, M. Seibert and Voigtlander. The last named objectives are so perfect that it is not any easy matter to tell them from the finest apochromats, especially when a compensating ocular is used.

There are three kinds of homogeneous immersion objectives made at the present day. First, a low apertured semiapochromat of 1.25 to 1.27 N.A., selling for about \$25.00. Second, a semiapochromat of 1.30 to 1.34 N.A., for about \$40.00. Third, a large apertured semiapochromat of 1.37 to 1.42 N.A., for about \$60.00. I must warn physicians that there is an American-made oil-immersion objective on the American market at the present time which sells at a low cost, but which shows all the defects that an objective is heir to, and it is usually attached to a stand of the same poor workmanship. I know many physicians who have purchased these only to find how inferior they were and how little satisfaction they gave. The writer will be pleased to mention the name or names of optical experts who can test objectives and who will give an unbiased judgment, for suitable compensation, of course. In a case of this sort I would recommend experts whom I know to be perfectly competent and who are recognized all over the world by eminent scientists.

#### Eyepieces or Oculars

The names of eyepieces are legion, but only a few are used at the present time. Those used most, in the order of their merit,

putting the best first, are: Watson's Holographic (variable compensating eyepiece), Compensating, Orthoscopic and Huyghenian. The latter is the eyepiece usually found, but it should be recollected that it does not work well with semiapochromats with an N.A. of over 0.70, and not at all well with apochromatic objectives. It also has a very unpleasant near eyepoint, especially in the high powers.

On the contrary, the Watson Holographic leaves nothing to be desired when used with all kinds of objectives, and I can strongly recommend it, as it is a little cheaper than the compensating variety. I would even recommend it to take the place of these. The sooner all makers get to making this type of ocular the better it will be for all hands concerned. The holographic, being an improved compensating eyepiece, when used with the objectives, as recommended above, flattens the field and destroys color very greatly and especially in the extraaxial portion of the field.

There are four standard sizes of eyepieces in use at the present time (or maybe I should say one size that is almost universally adopted) and three other sizes that are occasionally used, especially in Great Britain. The one so universally adopted and often spoken of as the standard diameter of eyepiece is the Royal Microscopical Society's No. 1, its outside diameter being 23.3 mm. (.9173 inch), and it is known as the Standard Continental diameter of eyepiece, because Germany adopted it even before it was accepted by the Royal Society in the year 1889. The other eyepieces have diameters as follows:

No. 2.....	26.416 mm. (1.04 inch)
No. 3.....	32.258 mm. (1.27 inch)
No. 4.....	35.814 mm. (1.41 inch)

For further particulars of these eyepieces probably the best account will be found in Dr. Edmund J. Spitta's work on "Microscopy" for 1909, published by John Murray, Albemarle St. W., London, England.

#### Substage Condensers

Substage condensers are divided into four great classes, as follows:

Dry and oil immersion, N.A. 0.20 to 1.40.....	<div style="display: inline-block; vertical-align: middle;"> <div style="display: inline-block; vertical-align: middle;">{</div> <div style="display: inline-block; vertical-align: middle;"> Chromatic Achromatic Aplanatic Apochromatic </div> </div>
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The Abbé condenser is an immersion condenser of two and three single lenses usually

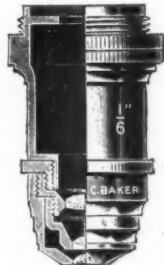


Fig. 25. Construction of 1.6 objective.

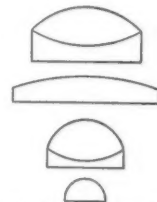


Fig. 26. The lenses in the objective.

with numerical apertures of 1.20 and 1.40, respectively. Its aplanatic aperture is quite small, usually being only 0.65 in the best. A condenser is practically like an objective turned upside down, which is the way it rests in the substage when in use.

Next to the Abbé condenser in point of value is the aplanatic. It gives a great and perfect concentration of light on the object and has an aplanatic aperture which is prac-

tically the same as its full aperture, and herein lies its value.

The achromatic condenser is next best and yields practically a perfect aplanatic cone in every way. It has not yet been exceeded entirely by its rival the apochromatic condenser, as it is called, due most probably to the fact that the achromatic is so perfect. The only good to

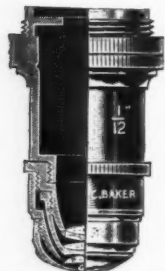


Fig. 27. High-power objective.

be derived from the apochromatic is that the flourspar used in its construction eliminates the secondary spectrum, and it is a disputed point whether this is of any advantage or not.

Doctor, if you are not in too much hurry we would advise you on dark days, when artificial illumination is dim or the sky is gray, to immerse your condenser in cedar oil before bringing it in contact with the under surface of the slide. You will then see what an immense increase in illumination you have. Why buy a condenser and not work it to its utmost capacity. Further than this, if you have a high apertured oil immersion objective, of say 1.37 N A, and you do not immerse your condenser, you are practically changing your objective to a cheaper one worth \$22.00 instead of \$52.00, the price you paid for it, as you are only utilizing 1.00 of its N A, when you should be using 1.35 N A at least. For bacteriology this is a great mistake, as bacteria show up best when the full or almost full aperture of the condenser is being used, which is only the case when in oil immersion contact.

In working with the microscope the instru-

ment should be at a convenient height. If the stand is used in the vertical position, bring the back toe of the foot as close to the edge of the table as possible. Do not forget to use the proper tube-length. The eyepiece should be gently lowered into the upper end of the draw tube. Its lenses are previously cleaned with an old soft silk handkerchief kept for the purpose; the user's handkerchief should never be used. Attach the objective holding the male thread into its female socket, rotating in a left-hand direction until a click is heard, when the direction of rotation is reversed and the objective is screwed home—not so tight, however, that it cannot be removed easily.

The slide with object upon it is now placed beneath the spring clips and centered as far as possible. The object, say a giant cell in a tubercle, is then examined with a low power, say a 2-inch objective which has a large real field. It will probably be seen toward the margin of the field. The giant cell can then be brought to the center of the field and preferably a quarter or a sixth objective substituted, when the cells and nuclei will be plainly visible. High eyepiecing can then be resorted to, and if this does not show up sufficient detail the oil-immersion objective can be used.

In using the oil-immersion objective a drop of cedar oil is placed on the cover and the objective lowered until it drops into the oil. Then focus up with the fine adjustment until the image is sharp and clear. Throw the iris-diaphragm wide open, focus the condenser after immersing it if needed. The object will probably become lost in light. Therefore, diaphragm down to the proper point, i. e., where most detail seems to be disclosed. Remove the eyepiece and look at the back lens of the objective and you will see a disc of light covering seven-eighths of the middle part of the lens, that is if the objective is a good one, as that of Carl Zeiss or Bausch & Lomb new Fluorite oil-immersion objective, for instance. Never look into the microscope facing you. Always have its back toward you.

Some day if the good editor sees fit I may write an article on testing objectives, or photomicrography.



# The Story of a Head-Hunter

By THOMAS E. MOSS, M. D., Kevil, Kentucky

*EDITORIAL NOTE.*—During his years of service as surgeon in the Philippine Constabulary, and as a health officer in northern Luzon, where he came into intimate contact with the savage tribes, Major Moss learned to know the head-hunting people as few men do. This story is a record of actual happenings, though told in fiction form.

[Continued from page 642, July issue.]

## Dread of Vengeance Kills Pedro

DOWN across the prairie, in the town of Malilie, a tragic scene was being enacted. Pedro Sanchesmirro was dying. The life he had led since the murder of Kalipowan had been too much for him and had made of him a nervous wreck; for, he had lived in constant fear of death at the hands of the Kalingas, who, he knew, would wait for him for a hundred years, even to the third and fourth generation, for that is their law. Pedro could not rest; he never left the house after dark, nor even went to the outskirts of the town to visit his fields without a large body-guard. In every dark corner he could see a lurking Kalinga and every shadow took on the form of Kalipowan. Pedro could not know of the plight of Aguilan and could not understand why no attempt had been made upon his life; for, he knew well enough the law of the Kalingas, which binds every son to avenge the death of his father or other member of that family. Hence, this delay only served to increase the worry and dread of Pedro, for it only made it the more certain that the revenge was coming.

When Pedro found that he was dying, he was glad that it was so, for he at least would find security in the grave. So, calling Ortagar, his only son, he drove all the other members of the family out of the room and made Ortagar come close to the bed, and then confessed to him all the horrors of his life.

He also gave him the keys to his money-chest, and told him to send word to Aguilan that he, Pedro, was dead and that he, Ortagar, would pay the blood-debt with money, thereby escaping the sure fate which would find him sooner or later, because he must pay the debt of his father with his life if he did not pay it in money. Such is the law of the Kalingas. Ortagar took the keys and promised he would do as Pedro said. Pedro lingered but a few days more, then was buried in a Christian grave, with his head on his shoulders—which would not have been the case had he lived, for Aguilan was fast gaining back his strength. A savage's vitality is wonderful. Aguilan had received enough

wounds to have killed at least three Christians.

When Aguilan had recovered his strength, the old chief called the people of the town and held a council; he told the people that he was growing too old to fight any longer, and they must choose another chief. Thereupon they chose Aguilan, in recognition of his bravery shown in defending the pass.

Aguilan begged that someone else be made chief, for he desired to devote the remainder of his life to the avenging of his father's murder, but the people would not hear to this. Then Aguilan named a sub-chief, to act in his absence, which he estimated would be long, for he did not underestimate his chances against the Christians in carrying out his scheme of vengeance.

## Aguilan and Ortagar

Ortagar, the son, became the head of the house after Pedro's death, and, being of a dissipated, gambling nature, he soon forgot his father's admonition regarding the Kalinga's vengeance. Then, one morning, he found on his doorstep a little bamboo-stick on which was carved every detail of Pedro's foul dealings. Now he knew that death had passed close to him in the night.

Ortagar at once formulated a scheme whereby he could get Aguilan out of the way and at the same time keep the money which was to have been his ransom. He sent word to Aguilan that he was very sorry that Kalipowan had been killed by Pedro, his father, and that he was more than willing to pay the blood-debt in money, jars, and cattle, and that, if Aguilan would come to the town of Malilie, he would pay him. He dwelt long on the description of a certain jar which would be in the collection of things that would go to pay the debt, saying that it was a jar so old that no one knew where it came from or how old it was. He believed it was brought to the islands by a Chinese trader some two hundred years ago, that it was covered with figures of great beauty and such age that he did not know what they meant, but that most probably he, Aguilan, would know. Ortagar knew well the fascination such a jar would hold for the Kalinga and hoped to trick Aguilan into his power by it.

It was arranged that Aguilan should come alone and meet Ortagar a mile out on the prairie, to talk over the blood-debt and fix the amount that would satisfy him for the death of his father. This was carried out. Aguilan agreed to come again the next day to the same place and get the jars and money; the cattle to be delivered at the foothills, by Ortagar's servants, within a week's time. The meeting-place out on the prairie was near a little stream upon the banks of which grew a thicket of bushes. This place had been selected by Ortagar because in this thicket he could hide his police, Ortagar having become presidente after his father's death. Thus the trap was perfected.

The Kalingas, as has been seen, are spirit-worshippers; they see in every tree and rock a spirit; even the birds talk to them. So, when a headhunting party goes out on the trail, if they see a crow flying toward them, they immediately turn back, believing it to be a sign that bad luck will follow them if they persist in the expedition. If a certain kind of bird, called "palewah," is heard to call ahead of them, they believe it is the spirit of one of their dead friends telling them that an enemy is lurking ahead of them.

#### The "Spirits" Warn Aguilan

On the day agreed upon, Aguilan came to the meeting-place, but as he neared the thicket mentioned he hesitated, seeming to feel that everything was not as it should be; however, look as hard as he could, he could not see anything suspicious, for Ortagar had hidden his police with extraordinary cunning. The police never moved a muscle; if they had, the sharp eyes of the savage would have seen them. Aguilan could see the pile of jars and things which the cunning Ortagar had placed in full view. It seemed that Aguilan would share the fate of his father, for he had reached the farther end of the thicket and was coming slowly toward the fatal spot. However, the spirits had not forsaken him, for at that moment a little palewah uttered its shrill cry of warning. Aguilan never hesitated a second, but darted away on the back track to the mountains, with the bullets from the revolvers of the police whistling past his head and the whole pack in full cry at his heels. It did not take the savage long to outdistance his pursuers, for he could run like a deer, while the police were not able to follow him.

Ortagar raved and tore his hair, and beat the police with his cane until they begged for mercy, saying it was not their fault that

Aguilan had escaped, since they had obeyed instructions to the letter and that, if he had allowed them to carry rifles instead of revolvers, they would have killed him. Ortagar knew that, if he had armed his police with rifles, the senior inspector across the river from where the soldiers were stationed would have heard of it and caused an inquiry into the reason for an armed expedition. The senior inspector was an American, and Ortagar knew that, if he went to the soldiery, he would get plain justice, after a thorough investigation had been made. An investigation was about the last thing Ortagar desired; still, the thought of the soldiers had given his fertile brain an idea, and he at once hatched up a new scheme by which he hoped to get rid of his enemy, realizing that he had lost his last chance to escape death at the hands of the savages, that Aguilan would spend the rest of his life in hunting him down to his death.

Early the next morning, Ortagar went across the river to the barracks and requested an interview with the senior inspector. Entering the office, bowing and smiling, with exaggerated politeness, he told the inspector that Aguilan had threatened to kill him, and produced the little bamboo-stick to prove that Aguilan had slipped up to his house during the night and, failing in getting an opportunity to kill him, had left the stick as a warning of the fate in store for him. He then asked that a detachment of soldiers be despatched to Aguilan's town and arrest him. Ortagar had figured that, if he could get Aguilan into jail, he could have him poisoned.

The inspector listened attentively to the story, but, knowing Ortagar's reputation and also the customs of the Kalingas, he felt that Ortagar had doublecrossed the other. Hence, he told Ortagar he would have to work out his own salvation; that his duty was not to see that the municipal laws were obeyed, but to keep down outlaws and cattle stealing among the Filipinos, and to break up the custom of headhunting among the mountain-tribes.

Notwithstanding the refusal of the official, the soldier idea still stuck in the head of Ortagar, who went back to town and had one of his henchmen make fifteen uniforms as nearly like those of the soldiers as he could. In these uniforms he dressed his hunters, gave them rifles, and sent them to Dusepan, the town where Aguilan lived. The people of Dusepan were used to seeing patrols of soldiers come to their town once a month; consequently, when they saw the counterfeit soldiers of Ortagar coming, they did not

suspect anything wrong. These soldiers had been thoroughly schooled by Ortagar, so, after entering the town, they pretended to inspect it and, by maneuvering around, drew the attention of most of the inhabitants to that part farthest away from Aguilan's house. To the latter, two of the "soldiers" had been detailed, and these went to the house of Aguilan, pretending to inspect the place. They called Aguilan outside, and, when he came down the little ladder, used in place of steps, they shot him dead. Aguilan's wife, seeing this, shut the door, but it was soon burst open and she was stabbed with a bayonet, falling mortally wounded to the floor. As soon as the men had finished their bloody work, they left the town as quickly as possible, making their escape by shooting, thus keeping the inhabitants back, for the savages have no guns.

#### The Blood-Feud Goes On

As soon as the invaders had left, Aguilan's wife crawled over to the corner of the room where she had hidden her son under a pile of rice-straw. She took some blood from the body of dead Aguilan and with it made the death-sign over the heart of the boy and made him swear to kill Ortagar and as many of his companions as he could.

This boy, Dacayon, was 12 years old when he saw the men kill his father and mother, as he lay peering out, with fierce eyes, from under the pile of straw. During the next six years, Dacayon herded buffalo in the foothills and followed the deer and wild things of the forest. He would watch the doe and little fawns as they moved through the forest or started up at his approach; he would talk to them and tell them his troubles. One time he found a little fawn whose mother had been killed by hunters; he gave it some milk which he took from a buffalo cow in his herd and made it a bed of leaves and grass. Dacayon always carried the great war-spear of Kalipowan, besides his own barbed hunting-spear; he never killed any of the wild-things unless he was hungry, and then only enough to supply his wants.

Many times he would see the hunting parties from the Christian cities when they came to the foothills to hunt. He would lie concealed and watch them, and sometimes when none of the party had guns he would slip up near them, always keeping concealed, but going as near as possible without being detected. This was no little matter, for many of the hunters were schooled in the forest's ways and were always on the lookout for

savages; but, knowing all the little game-trails, he could at all times manage to evade being seen.

Dacayon had grown to be 18 years old. He had attained a powerful physique, was standing almost six feet, with powerful shoulders and massive head, and from constant exposure to the sun and weather he was very dark, almost black, with skin which shone like ivory; his muscles rippled and waved as his lithe body moved like the silent tread of a panther. The great wide-bladed war-spear of Kalipowan and his own hunting-spear were like feathers in his powerful hands; he could drive the barbed hunting-spear through the hide and flesh of the toughest wild boar and pierce its heart. The great war-spear was never used, but was kept sharp and bright, that, when the fatal moment came, he might make his peace with the spirits of his murdered dead.

Dacayon had now reached the time of his life when he thought he was able to cope with any antagonist, and he knew that the time had come for him to take the head of Ortagar, whom he had seen many times as he hunted (for, Ortagar had inherited his father's fondness for hunting) and who, thinking all danger from the Kalingas had passed, came frequently to indulge in the sport.

#### Ortagar's Fated Hour

The town of Malilie was in gala dress, for it was the week of the great festivities given in honor of the town's patron saint, when all was gaiety and pleasure. All the high officials from the surrounding towns had come to meet and celebrate, dancing every night and horse-racing every day, with the never-failing delight of cockfighting.

Ortagar's house was full of guests, and, to add to the occasion, a deer- and buffalo-hunt was suggested. Plans were made to go well up into the foothills on the morrow. The servants, beaters, dogs, and hunting-ponies were sent out and everything was arranged so that the guests would find things prepared for them when they arrived at daylight.

The next morning, at 2 o'clock, Ortagar and his guests started for the place selected and arrived at dawn. Ortagar and his friends were placed on stands half a mile back from a strip of forest into which the dogs and beaters had been sent to drive out the deer and buffalo. Most of the guests had been placed in trees, well up out of the way of the wild buffalo, which are very dangerous, for they at once attack anyone who is in their path when they rush from the timber.

Ortagar, being an old hand at the business and being mounted on the fleetest hunting-pony in the land, had taken up a position of vantage on a little plateau upon which grew a few stunted trees. He was three-quarters of a mile back from the timber and the rest of the party. He had taken this place, for the best game-trail led up out of the forest onto this plateau; from which it ran on up into the high mountains. Here was fine ground for the pony to run over, which is very necessary for a hunter who is armed only with a lance, as was Ortagar. The guests in the trees were armed with rifles and shot-guns, and Ortagar wanted to show off and kill more game with a lance than they could with guns.

When Ortagar's servants had arrived the previous evening, Dacayon had seen and recognized them, and had slipped up to their camp after dark and listened to them as they talked. He had heard Ortagar's name many times and knew that he would come the following morning. So, he prayed to the spirits of his dead that he might have success on the morrow.

#### Ortagar Follows the Buck

As the guests and Ortagar took up their positions, the sun burst over the rim of the crater of the old volcano and flooded the country with its dazzling light, presaging a most beautiful day. Soon the hunters' cries of "venao" (deer) rang through the forest and a big buck bounded into sight and made for the little plateau where Ortagar was stationed upon his pony, concealed behind the low trees. As the deer topped the rise of the plateau, Ortagar's pony sprang forward and soon was close to the fleeing animal, not three-spears' lengths behind. But this was a seasoned buck in his prime, with great antlers, which he had carried for years, with which he had won many battles and defended his doe and little fawns. He seemed to know that he must use all his powers in this emergency and, so, held the distance for more than two miles, straight across the plateau and up the slope toward the great towering walls of the extinct volcano.

Urge his mount as he would, Ortagar could not gain on the fleet buck, neither could the latter increase the distance between himself and the gleaming lance-head in Ortagar's hand. The buck's breath was coming in gasps, his brave heart was pounding as though it would break, his eyes were beginning to blur and he could not see how to

follow the well-known trail which had led him to safety so many times; he seemed to see the doe and two little fawns which he had left down in the forest as he drew the dogs away from them in another direction; he wondered what they were doing there now in front of his fast-glazing eyes; for, was he not giving his life to save them, and had he not taught them always to take the back track as he led the dogs away in another direction?

But they could not go back now, for behind him a thing was thundering. Why did they not run on up in the mountains? Why did they lie there in front of him by the side of the trail behind that little bunch of grass? Did they not see the narrow knifelike head of the lance behind him? His heart was breaking, he could go no further, only a few steps and he would see the beautiful sun no more, but with his last heart's throb he would reach them, his doe and the fawns, and die where they lay.

But, no, those were not the forms of his dear ones; that was a different spear-head, and so much larger than the lance-head behind him; and it was to the side of his path and not aimed at *his* heart! How strange! Anyhow, it did not matter. *He* had to lie down. But, why did the great war-spear slip past him and bury itself in the breast of that pony, the shaft snapping as the pony stumbled and fell? And how curious to see a barbed hunting-spear flash as it passed through the body of the man as he rose from where he and the pony had fallen. What great, tall form was that which was standing over him now, the form which but a moment before had been the bodies of his loved ones? And what had become of *them*? He must go back and find them as soon as his heart would stop jumping and be quiet enough for him to stand on his stiff legs.

#### The End at Last!

Oh, yes, he could see a little better now; it was his friend Dacayon, whom he had seen so many times down in the forest. Yes, it was he, for now he was helping him to get upon his stiff legs; he was so thankful and would go on now, as he felt a little stronger; he could hardly move, but would look back for a moment to where his friend stood. Now, of all queer things, was it the head of the man who had ridden so hard after him trying to run him through with the lance?

It was the head of Ortagar which Dacayon held in his hand!

# Beauty in General

## And the Tip of the Nose in Particular

By RALPH ST. J. PERRY, M. D., Minneapolis, Minnesota

**EDITORIAL NOTE.**—Here we have another of Doctor Perry's interesting papers upon cosmetic surgery—one phase of it. The doctor is showing us how much can be done to make even the ugliest face passably attractive. This is a branch of surgery with which every physician should be familiar.

[Continued from page 634, July issue.]

### Deviations of the Tip

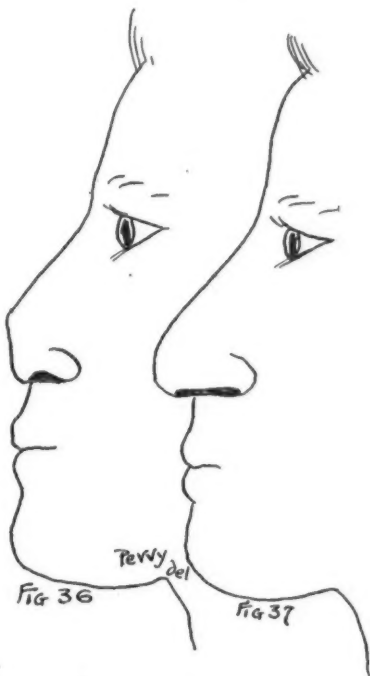
**D**EVIATIONS of the tip only (Fig. 35), the deformity lying within the septal cartilage, may result from distortion of the cartilage itself or from cicatricial contractions that draw the tip to one side. If the former, the cartilage may be cut through, subcutaneous-



ly, in such a way as to permit of straightening, and then splinted in place until union has taken place. Such deformities should be slightly overcorrected. If owing to a cicatricial contraction, the cicatrix should be loosened and the raw surfaces grafted over; or the entire scar-tissue may be dissected out and replaced by a graft of normal skin.

Abscess of the septal cartilage almost invariably is followed by a falling of the tip of the nose, giving rise to a deformity called "frog-nose" (Fig. 36), also "néz canis" and "flocke nose." This same condition may also arise from congenital defective development of the septal cartilage or from deflection or "buckling" of the lateral cartilages following injury. Where the septal cartilage alone is involved, other tissues being normal as to quantity, the treatment consists in dissecting or cutting through the deep tissues subcutaneously, so as to form two flaps as shown in Figure 38; the tip is then elevated and held in its proper position while the surgeon fixes it by bringing together the flaps and suturing them in place.

Where the tissues do not possess sufficient stability to maintain the erect position, they may be supported by inserting a buried spring-truss of tungsten wire before suturing the flaps in place; or, the truss can be inserted, if need be, by a second operation at a later date. Kyle's nasal splints or Simpson's nasal tampons are placed in each nostril, and left there for several days, in order to maintain complete apposition of the flaps and to establish the form of the nose. The metal splint is preferable, as it can be shaped to suit and



permits breathing through the nostrils. The final result is a nose of natural shape (Fig. 37).

A few other defects: Perforations or fistulas of the alæ are closed by means of small skin flaps transplanted from the nearby regions. Marginal defects, if minute, are



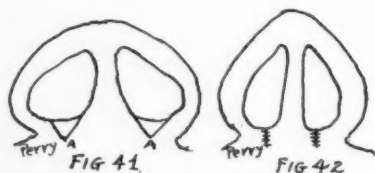
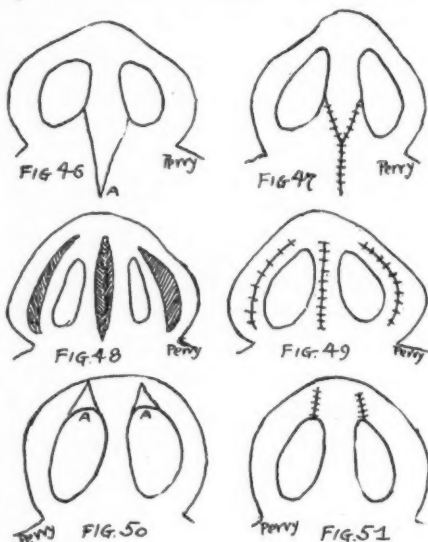
Abbott's dermal solvent. A cutaneous horn must be excised and the base cauterized.

The shape of the tip of the nose depends greatly upon that of the lower lateral cartilages. In collapsed

remedied with the aid of paraffin-prosthesis, and by grafting, if large. Enchondromata (Fig. 39) are to be excised, the same as elsewhere, the incisions being made in places



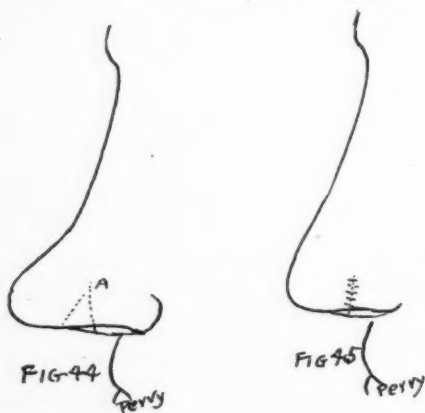
where the resulting scar will be as inconspicuous as possible. Warts, cornua, and similar excrescences are quite often encoun-



tered about the nasal tip. Warts can be removed with nitric or chromic acid or with

them there by means of suitable nasal splints until union has taken place. Not only for collapsed alæ is this operation available, but it can be employed in giving the alæ any desired shape, the nasal splint being patterned to suit, and a conforming and co-opting external splint being applied to force and retain the sectioned cartilages in place pending union.

The form of the tip of the nose (and nostrils) can be modified to suit the desires of the most fastidious. Figures 41 to 51 show operations intended to remedy, respectively, a too broad base of the tip, a bulbous lobule, a too long lobule, a too small lobule, and a too wide tip. An elevated tip may be consequent upon a surplus of the soft parts or upon a too prominent anterior nasal spine of the superior maxilla. In the former case, suitable excision may be made (Figs. 44 and



45), while in the latter the excess spinous process can be cut away under the upper lip.

The angle formed at the junction of the septum and the lip frequently is unsightly. This defect can be corrected by changing the plane of the narial opening or by excising such redundant portions of the soft tissues as may be needful and helpful in establish-

ing an esthetic contour. Occasionally we meet with a defective attachment of the two lateral cartilages where they meet to form the subseptum, and here we have a condition termed "split nose," because of the deep groove or sulcus in the median line. This disfigurement may be remedied with paraffin-prosthesis.

## An Old Doctor's Life Story

### An Autobiography

By ROBERT GRAY, M. D., Pichucalco, Mexico

*EDITORIAL NOTE.—This article is the sixth instalment of Doctor Gray's autobiography. Every physician should read this intimate record of the unfolding of an unusual life. Doctor Gray was born in the Old South, was educated in France under the old regime, fought through our Civil War on the Confederate side, and soon after its close plunged into the very depths of tropical Mexico, where he has spent the greater portion of his romantic and adventurous life. Now, at the age of eighty-five, he has given his story to the world through the pages of "Clinical Medicine."*

[Continued from page 612, July issue.]

In vain my lyre would lightly breathe  
The smile that sorrow fain would wear,  
But mocks the wo that lurks beneath,  
Like roses o'er a sepulchre.

**D**OLEFULLY the poor whippoorwill chanted her monotonous plaint, as she flitted along the road in front of me, while the freshening morning zephyrs pathetically murmured their tireless lullaby in the boughs of the tall pine-trees, as the road turned sharply from the forest, to bear down upon the ancient homestead. The stars were beginning to fade out low down the eastern horizon, but still twinkled brightly in the dome above, as I turned a sharp corner of the plantation, expecting to see my mother's matin lamplight through the latticed window-blinds, the beacon welcome to my home-coming—but only the tall forbidding black chimney-tops looming heavenward met my gaze.

The same chill that came over me from the icy breath of the war-cloud in the gray dawn that last morning when I departed the new plantation seized me with redoubled violence. I dismounted, having mastered myself in a trice, and stood on the desolate site of the old homestead and sought with eager, searching eye, but discerned nor fowl, nor beast, nor fence-rail, nor any token of the impress of human life on the vast estate. At last, over yonder, at the foot of a little hill, I saw a weird flickering light where, I remembered, there once was a broad shelving rock. Tying my horse, I stealthily proceeded afoot toward the light, and when I came quite near a

quivering voice struck a sweet musical note, and, as I harkened, there softly floated toward me on the morning air this strain:

And I miss the soft clasp of thy hand,  
Thy breath warm on my cheek,  
And I still keep listening for the words  
Thou nevermore mayest speak.

As the voice hushed, I went forward, and there, in the dell of mountain woodland, near the lone road, found my old black mammy. When she saw me coming, her greeting was, "An' Mars Rob iz cum home ter die!" Then she told me how my mother and two sisters and my Carrie had died of diphtheria under that rock during the past month; and the poor men, back in the pine-woods, had come and buried them, all in a row, in plain coffins, up yonder in the family burying-ground. She told me the Yankees drove all the negroes off before them, except herself and old Sol, who had hid in an apple-house under ground, back in the orchard; that all the clothing and bedding were burned in the houses and nothing left to eat; that Carrie's mother died before any of my own family; that I had no kindred alive, all the men having died in the war; that the few women had left, because all the houses were burned; that my aunt Rhoda still was living, away yonder where the houses were not burned, but that her husband and two sons were killed in the war. These staggering stories told, Aunt Jamima shared her humble breakfast with me, with the dignity of a queen; and she was, truly, the queen of the Gray estate.

Ere it was more than fairly daylight, I was in the cemetery-place, standing at the foot of the grave of Carrie, on which the sods of the valley were not yet dry; and I found myself repeating the words of the poet:

The all of thine that cannot die  
Through dark and dread Eternity  
Returns again to me,  
And more thy buried love endears  
Than aught, except its living years.

Aye, and I seem to hear the echo of those words in the stillness of this lonely night, as I have thought hearing them so many, oh! so many times since that sorrow-laden morn, whatever the circumstances.

Turning quickly from the doleful scene, I returned to my black mammy and implored her to go to live with my aunt Rhoda; but this she refused to consider, for, she said, she was going to die under that same rock and wanted to be buried at the feet of my mother and Carrie, where the ground had been staked off by her. So, I told the faithful old soul that I was going to ride over to the town, a few miles away, and see what disposition I could make for her, lest the surely impending destitution befall her, well knowing that I should never see her more.

Before the sun had been veiled by the western horizon that fateful day, I had signed a quit-claim deed to all of the estate of my family, in consideration of \$1000 gold, paid in hand, and the payment of \$1000 in four equal annual installments; with the provision that my black mammy should be given \$10 each month regularly as long as she lived. Also, that she be decently buried, and in the way she had indicated. Furthermore, the graves were to be provided with marble columns, appropriately lettered, and to be cared for in perpetuity. I also stipulated that no houses ever were to be built directly on the site of the old homestead, nor the chimneys ever to be destroyed.

#### Self-Exiled to Mexico

Plans for my future quickly ripened. At daybreak of the following day, I began my pilgrimage, long and cheerless, full of inconveniences and privations. Reaching San Antonio, that quaint old Spanish town of Texas, with ox-team trade, I rested a week, then continued my journey to Mexico, whither I was wending my way, resolved never to set foot on United States soil again; for I well knew that, with a million of trained men under arms, the American government would not permit Maximilian and his French-

men to remain much longer in that neighboring country.

I entered Mexico at Piedras Negras and then loitered around the small towns near the border, mastering the language sufficiently to enable me to practice medicine in the country, and doing enough, with odd little jobs of surgery, to defray my current expenses (which were trivial) in the meanwhile, until the time when the French would be gone. Then I set out for the sickly gulf coast, where I expected I soon would expire in heroic duty, ministering to the stricken.

There remained for me no object in life, save the requital of my professional duty to sick and suffering humanity; and I picked out the most sickly belt of the continent—where even yellow-fever was indigenous—as the field the least attractive among them all, and where my services were likely to be more needed than anywhere else, with the prospect of an abnormally early relief from this intensely critical practice certain to fall to my lot.

In the monotony of semi-idleness of northern Mexico, in my eternal divorcement from every tender and endearing family and social tie, reckless for the nonce of delicate reputation, and among a people where it is customary for a respectable stranger to seek a mistress among the poor girls not public characters (a vice not prejudicial to the man as a member of the better-class society), I began the experiment in two or three small places where I knew I was not going to remain for long. However, I quickly saw that these poor girls promptly would lapse into a state of veritable affection to such a degree that surely must be distressing to me to sever later on; and I paid them sufficient to console them for the blight of their expectations of being mistress of a foreign doctor (a relation, as said, not regarded as a degrading one), and terminated the shady intrigue, never to repeat the like.

#### Work the Cure

And, while on this unpleasant theme, one that I am not likely to broach again in this retrospect, I want to assure my medical readers that the sexual desire is abated in a wonderful degree under the stress of the stern and pressing exigencies of a rural practice, such as I have been engaged in down here for nearly half a century without one day of restful vacation. Contrast me with Solomon, who cried out, "Vanity of vanities and vexation of spirit!" after he was powerless to "sin" more, if you please; but I have told

you of transgressions in my own country that should make the worst rake among you blush, and certainly have far less motive now to mask my conduct in a foreign land, where some degree of Mormonism would not have discounted my reputation very seriously.

#### Doctors Should Be Above Suspicion

I do not care a rap about promoting social betterment, in this connection, outside of the medical profession; but the members of the latter, I verily believe, should not only be above suspicion, but actually innocent of sexual laxity, unless they mean, and desire to be, the physicians of harlots and other slum-elements of humankind. A high-toned family physician should be high above and far beyond impure thought in the family of a patient. Ogling a flippant young woman, under such circumstances, should be a professional crime, sufficiently grave to deprive the offender of the right to practice. I have never seen such a lapse from professional propriety, the few young men with whom I have been associated having conducted themselves admirably in the presence of women of the family and others in the house; nevertheless, I have been told that some Europeans are imprudent under such conditions, here in Mexico, where many strangers disgracefully debase the women, because of the prevalent laxity about any woman becoming a mistress when she is not of first-class social grade. However, those Mexican mistresses usually are as tenaciously faithful to their lovers as most married women, here or elsewhere, are to their husbands.

In the Pacific belt of the state of Michoican, where I spent much time, there are as beautiful blond women as I ever saw in Paris. These are French descendants. And in the chaotic anarchy that reigned over Mexico before the pacification by the iron hand of Diaz, there existed bands of bandits who, for a stipulated sum, would kidnap the girl some dissolute rancher desired for a mistress, suddenly appearing at her home, seizing and bearing her away on horseback, while others of them overawed the rest of the family. The girl disappeared, meantime an arrangement being made with the mercenary authori-

ties to condone the crime; from a \$25- to \$50-fine usually being assessed. After that, the victim reappeared, living openly with the man as his mistress, without any chance of redress.

One girl was thus kidnaped from a family in which I had been employed quite often, and she lived in the village afterward, horribly abused. I jestingly said to the mayor one day that I had a mind to disquit the brute of the girl; and he promptly offered to bet me \$100 that I could not gain her, whether for love or money. I took him up and went to see the girl the same afternoon. She did not get angry, but told me firmly that I knew well the bright life it once seemed she had before her, and how it had been blighted; that the die of her destiny was cast; that she would stray with me sooner than with any other man she knew, if thus inclined; but that the arrangement I proposed would likely result in the death of us both very promptly, were she to accede; that, as she was, she would live and die, unless he died first. The president (or mayor, as such officer is termed among you), a wealthy man, got my money, and told me he had tried in every possible way to win the girl away from her kidnaper, but without making the slightest favorable impression.

#### Resist Temptation

I always had my face sternly set against medication designed to prevent conception or to produce abortion. One wealthy girl in the same village became lawfully married. Two days subsequently, she came flouncing into my office, leaving her servant woman outside, and asked me if I could give her medicine to avoid becoming pregnant, as she did not want a troop of little ones in a hurry. I told her what she desired was dangerously against the law, but that I could give her a safe and an innocent protection. She abruptly demanded it to be given her. Thereupon I told her to drink a glass of cold water on retiring at night, and also to practice continence, and she would be absolutely safe as a consequence. "Hñi," she grumbled, "what fool does not know that?" and she left in high dudgeon.

[To be continued.]



# What Others are Doing

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## SPRAYING OF WOUND WITH IODINE-SOLUTION

Doctor Dedolph, of the military hospital at Aachen, asserts that for disinfecting wounds the application of iodine-solution in the form of spray has advantages over the customary swabbing. He says: The iodine spray (1) is more economical—of importance where large numbers have to be treated; (2) it saves gauze, none being used; (3) it obviates soiling of the fingers; (4) it penetrates into recesses where the swab does not enter; (5) it does not cause pain, as the flesh is not touched. In addition, it is handy for iodizing the skin area around the wound. Incidentally the author states that a firm at Aachen has constructed for him a special (patented) atomizer that permits of reaching every part of the body, in whatever posture, the ordinary apparatus failing when held in an inclined position.

## TETANUS AMONG THE SOLDIERS

Tetanus has caused a large number of deaths among the soldiers in all the European armies in the field, and the frequency of its occurrence is ascribed to the trench method of fighting, the impossibility of keeping clean, and the constant soiling of the body, and consequently of all wounds, with earth that has been heavily manured. In its issue for March 20 (p. 520), *The British Medical Journal* prints a condensed report of the experience of Professor Czerny, of Heidelberg, as originally published in the *Neue Freie Presse*, of Wien.

In this article, Czerny declares that tetanus so far has been the greatest danger to the wounded. Out of 60,000 wounded Bavarians, 420 developed tetanus, ending fatally in 240 cases. In Heidelberg, there was 32 cases and 15 deaths. The prophylactic value of the tetanus-serum has been thoroughly established, with an experience large enough to prove incontestably that it is a remedy of the greatest value in the prevention of this disease.

This reminds us that every summer there are bound to occur a large number of wounds in this country, a large proportion

of which inevitably lead to tetanus. Every physician should be prepared to give the prophylactic serum treatment.

## TRAINING DEAF CHILDREN

Anyone interested in a little deaf child can obtain free literature explaining approved methods of training deaf children from infancy to school age by writing to The Volta Bureau for the Increase and Diffusion of Knowledge Relating to the Deaf, 1601 Thirty-fifth Street N. W., Washington, D. C. This literature relates only to the training of little deaf children; not to medical treatment nor to the deafness that comes in later life. Age of child and other details are welcomed.

## SCOPOLAMINE-MORPHINE TREATMENT OF LABOR

The journals (medical as well as lay) continue to print numerous articles concerning "twilight sleep" in childbirth, among them being an interesting one by Dr. Francis B. Wakefield, appearing in the March number of *The American Journal of Obstetrics* (p.422.)

Dr. Wakefield writes that he has induced scopolamine-morphine anesthesia in 40 cases in his own private hospital, and declares that the treatment is very exacting and time-consuming but, if efficiently administered, is capable of yielding such splendid results as to repay amply for the time and energy spent. He does not employ narcophine, and asserts that he has no desire to do so.

Doctor Wakefield gives 1-6 grain of morphine hydrochloride with the first dose of scopolamine, and never repeats the morphine. While it is impossible to lay down any hard and fast rules for dosages, he generally gives the first dose (the combination) as soon as the uterine contractions have become regular, say, every five minutes. Succeeding doses of scopolamine are administered at varying intervals, according to the individual susceptibility of the patient, the usual dose of the scopolamine being from 1-400 to 1-300 grain. At the time of delivery, he generally gives a few whiffs of chloroform, so that the

woman is not conscious at the moment of the child's birth.

"Personally," says Doctor Wakefield, "I would just as soon consider performing a surgical operation without an anaesthetic as conducting a labor without scopolamine-amnesia. Skillfully administered, the best interest both of the mother and the child are advanced by its use. All the talk about 'blue babies' and 'asphyxiated infants' due to the use of scopolamine, so far as my experience goes, is all nonsense. I have no more 'blue babies' or 'asphyxiated infants' now than I had before I began to use scopolamine, and when it happens, as it seldom does, it is due to some mechanical condition. Repeated dosing with morphine or narcophine will affect the babies, but not scopolamine properly administered. Finally, and most important of all, under the use of this beneficent pain-relieving and nerve-conserving treatment, childbirth not only will lose its terror, but will cease to be followed by the nervous invalidism that so frequently has characterized it in the past, particularly among the women of the cultured, well-to-do class, whose education and environment have been such as poorly to fit them for the severe physical and nervous strain which they are called upon to bear in the usual course of labor."

All the good things that Doctor Wakefield has to say regarding scopolamine-morphine can be duplicated—and more, too—about the action of hyoscine, morphine, and cactoid. As usually advised in this journal, the initial dose of morphine, when this preparation is given, is only 1-8 grain, as compared with 1-6 grain of the narcotic advised by those following the Freiburg method. If the morphine requires repeating (it rarely does), usually one-half of a No. 2 tablet (containing 1-16 grain or morphine) is administered at the succeeding dose. A total of two No. 2 tablets (or 1-4 grain of morphine) need not be exceeded in the course of any obstetric case, from the very beginning to the end. The hyoscine alone may be repeated, if desired, in order to maintain the amnesia.

Thus used, the danger is so slight that it hardly deserves consideration; the total quantity of morphine does not exceed that recommended by the defenders of the Freiburg method; and the quantity of hyoscine, as a rule, is much less than the quantity of scopolamine considered necessary by the physicians of that school. Finally, we have the steady-acting action of the cactoid upon the heart, and this often is simply invaluable.

Do not forget, also, that hyoscine, morphine, and cactoid has had the test of time. Thousands and thousands of women in America have been delivered and are being delivered under the influence of this hypodermic anesthetic.

#### TWO CASES OF AMEBIC DYSENTERY

Two cases of amebic dysentery have been treated by M. A. McGarty, in the St. Francis Hospital at La Crosse, Wisconsin, a report on which appears in *The Wisconsin Medical Journal* for March, page 404.

The first patient was a man of 37 years, who began to be troubled with dysentery fourteen years ago, when he served as a soldier in the Philippine Islands. At that time he had an acute attack lasting three days, followed by severe abdominal pain, tenesmus, and from 15 to 20 bloody stools a day. This condition has persisted more or less since that period, the discharges at times being bloody and at others simply diarrhetic. Throughout the entire fourteen years, he has passed no normal stools. He has lost strength and weight, the latter being reduced about 50 pounds. Examination of the stools revealed the presence of many amebas.

On November 29, the patient was given a hypodermic injection of 1 grain of emetine hydrochloride. The following day the amebas again were found; so, on December 1, 1 1-2 grains of emetine was given, in three injections. On December 2, the number of stools was reduced to about one-half. On December 3, 1 grain of emetine was administered, in two injections. Proctoscopic examination revealed a considerable quantity of bloody mucus in the rectum, also small punctate ulcers were seen on the rectal wall. No specimens of *Entameba histolytica* were found in the feces. On December 5, another 1-grain dose of emetine was given, and thereafter 1 grain every third day, for three doses. Since December 10, the patient has been up and around the hospital. At present, he has only three bowel movements in twenty-four hours. He has gained 15 pounds in weight and in other respects is markedly improved. On January 4, no amebas were found.

The second case reported was that of a man of 40 years, formerly a missionary in the South Sea Islands. In 1898, this man contracted malaria, and in June, 1900, he began to be troubled with frequent stools, which contained mucus and blood. He also suffered from "yaws." He was admitted to the hospital December 14, 1914. The ex-

amination of the stools on the following day revealed the presence of the entameba histolytica.

The patient was given gr. 1-2 emetine, hypodermically, was put to bed, and placed on a liquid diet. Injections of the drug were repeated, in varying doses, every other day, until December 19. Then a tube was passed up the colon, but no amebas were found. The following day there was only one stool during the twenty-four hours. Since then improvement seems to have been constant. At the time of writing, the patient was free from diarrhea, and generally had had but a single movement in the course of a day. He experienced no nausea or ill effects from the drug.

#### WOUND TREATMENT IN GERMANY

Naturally, discussions of the management of wounds of every description are the order of the day in European medical periodicals. Speaking of first-aid dressings, Doctor Oberst, military surgeon (of Freiburg i. Br.), gives praise to von Oettingen for having introduced the liquid adhesive mastisol, which permits of the ready occlusion of small, nonbleeding wounds, even in the most awkward location, and is a superior substitute for the provisional bandage that sticks fast by means of the driedout blood.

However, the large, torn, contused, and presumptively infected wounds produced by shells and shrapnels present greater difficulties. Because of extensive experience in private practice, the author (*Muench. Med. Woch.*, Dec. 1, 1914), in his capacity as Red Cross surgeon, made use of balsam of Peru as a first dressing, and with uniformly gratifying results. In general, disinfecting the wound by means of hydrogen-dioxide, or other antiseptic solution or applying antiseptic powders no longer is considered good practice (iodoform even being dangerous), and flooding it with iodine-solution, when the wound is large, may not be desirable; while as to von Oettingen's collargol tablets imbedded in the wounds, the author has no experience with that agent. So, Doctor Oberst has adhered to balsam of Peru, as more recently recommended by Schloffer, and corroborated by Koenig, at the Freiburg University.

The beneficial action of this substance is more physical than bactericide, although the cinnamic acid presumably contributes. (The latter does not cause irritation or, through absorption, affect the kidneys.) The resinous substances, it is argued, penetrate all the

contused necrotic tissues and those whose nutrition is disturbed, and thereby prevent putrefaction, the septic microbes finding no nutrient soil.

Its employment is extremely simple. When the lesion is superficial and widely gaping, a few drops or cubic centimeters (as demanded) of the balsam is poured into it from the vial, thickly covering every part, then gauze is loosely laid on. Of course, when there are recesses and pockets, these are laid open by means of gentle traction with hooks and then the balsam applied with tampons. The subsequent statement is not entirely clear: "Sutures are taboo. The wound 'remains open.'" But further on we are told that "after applying the balsam the wound always was left open and first a layer of gauze was superfixed by means of cambric strips and mastic-solution, while over this, according to circumstances, an absorptive pad was fastened with bandages or handkerchiefs."

The dressings have been found most excellent (in clinic practice and in this war) in severe bruises of the fingers and the hand (machinery), as also in complicated compound fractures and injuries of large joints; even where the skull was laid open by grazing projectiles, the Peruvian balsam, after removal of splinters and opening up, has been poured directly upon the brain. In fact, the author believes that particularly here inflammation of the meninges may thus be obviated.

Healing is extraordinarily rapid, while the clinical procedure has been completely remodeled under this treatment; for, no longer did inflammation set in, but these balsamic dressings could be allowed to remain undisturbed for days, even a week or two, healing meanwhile proceeding normally and virtually without wound secretion.

This dressing proves the more effective the earlier it is applied; however, wounds have been thus treated that were somewhat old and even when necrosed, discolored musculature was present. A deodorizing and secretion-checking action always was looked for.

Doctor Oberst warmly recommends the incorporation of this treatment in emergency outfits and field lazareths; indeed, it already has been adopted in the army of Holland.

In concluding his article, the author points out, not without cause, that this agent is subject to gross adulteration.

Taking note of the foregoing communication, H. L. Heusner, of Giessen, corroborates (*loc. cit.*, No. 52) what is said there, particularly so far as squeezed-off fingers are concerned; adding that already his father (Prof.

H., of Barmen) had employed balsam of Peru in a somewhat similar manner, and always with the best of success. Before closing the prepared wound, he poured the balsam into all the cavities.

In view of the costliness of Peruvian balsam, however, the younger Heusner cast about for a cheaper substance, one that would thoroughly coat the wound-surfaces as well as act antiseptically; and he hit upon the tars. His primary object was, the treatment of chronic leg-ulcers. A pure asphalt of sufficient liquidity was found to answer the purpose, if need be; as, indeed, it has been recommended by some writers. Next he tried various tar-oils, but some of these proved rather irritating. Of all, oil of cade (*oleum rusci*) gave most satisfaction.

The leg-ulcer first is superficially cleansed with hydrogen-dioxide solution. After this has dried off, the sore is thickly coated with the oil of cade, undiluted, and then the dressing is applied. Secretion soon stops, while upon changing the dressing healthy granulations will be observed. Shallow ulcerations often yield to two dressings or even a single one. Unpleasant effects never were observed, barring a slight evanescent burning experienced by some sensitive persons.

Heusner is continuing his investigations and invites others to look into this matter. He suggests that possibly this preparation could be made to serve in place of the Peruvian balsam in field practice or wherever economy is essential.

#### TREATMENT OF THE HEROIN-HABIT

An article upon the treatment of the heroin-habit, which is particularly timely right now, is contributed by T. D. Crothers to *The Medical Council* for September, 1914 (p. 339). The course of treatment suggested by Doctor Crothers is as follows:

Magnesium sulphate, given in 10- to 15-grain doses three or four times a day, until the bowels become irritable, seems to be the most effective single remedy. An infusion of hops or of valerian may be employed as a sedative. Hydropathic measures, in the form of baths, are essential to successful treatment. The heroin should be withdrawn at once, the nervous irritation being quieted by means of valerian, sumbul or asafetida, alone or in combination. As a tonic, an infusion of quassia is suggested. Doctor Crothers says there is no danger in the sudden withdrawal of heroin. This also applies to cocaine.

Crothers asserts that heroin is a dangerous drug to a neurotic, and that, should its use be necessary at any time, its identity should be concealed. The fascination of this drug lingers for a long time in the patient's memory, so that constant caution is necessary.

#### ALCOHOL IS NOT AN ANTIDOTE FOR CARBOLIC ACID

In a recent number of the *Johns Hopkins Hospital Bulletin* (April, 1915), Dr. David I. Macht published the results of a series of experimental investigations relative to phenol poisoning and the antidotes ordinarily used in cases of this kind. It seems that we shall have to revise our ideas relative to the value of the various antidotes for carbolic acid. Ever since 1899, when Powell introduced alcohol as a preventive of phenol poisoning, this substance has been used probably more than any other for this purpose. It will be remembered that Powell used to demonstrate its value as an antidote by washing his hands in pure carbolic acid and then in alcohol, even by filling his mouth with the acid and then rinsing it out with 95-percent alcohol.

However, the studies of Macht seem to show that not only is the alcohol useless, but actually increases the danger, because it hastens absorption. His studies also show that lavage with alcohol was followed by death more often than by recovery. When large doses of phenol had been given by mouth, washing the stomach with alcohol was followed almost invariably by death, in the experiments which he made upon cats.

The remedy which proved most effective as an antidote, in Macht's experience, was a solution of sodium sulphate. Dogs, he declares, withstand carbolic acid better than do cats, and he found it possible to save these animals by means of immediate lavage, irrespective of the remedy employed. After large doses of phenol, washing with sodium sulphate or plain water sometimes saved life. In late lavage, that is, if the stomach was washed about fifteen minutes after the ingestion of the carbolic acid, sodium sulphate gave the best results, plain water the next-best, while, as already stated, the use of alcohol was almost invariably followed by death.

Doctor Macht agrees with Tauber, that sodium sulphate is effective, because it hinders absorption. Also, through its purgative action it rids the body quickly of the poison. Magnesium sulphate can be used

for the same reason as the sodium sulphate, but the possibly depressing effect of magnesium ions in case of absorption is a disadvantage. However, when the sodium sulphate is not accessible, the magnesium sulphate, being usually at hand, may be employed in its place.

The moral of these observations is, that physicians should beware of washing out the stomach with alcohol when carbolic acid has been taken by the mouth. It is not denied, of course, that applications of alcohol to the skin or external tissues, after carbolic acid is applied, may be of value in preventing carbolic-acid burns.

#### ANTITYPHOID INOCULATION IN CANADA

*The Lancet* (June 12, p. 1245) tells us that the Canadian Pacific Railway has made a series of antityphoid vaccinations in its employes, extending over three years; that is, from 1911 to 1913 inclusive. From the report of Dr. L. S. Mackid, medical officer of the railroad at Calgary, Alberta, we learn that in 1912, 5500 inoculations were performed, and that there developed only two cases of typhoid fever among the persons so inoculated. One of these two attacked had received only one injection and came down with the disease a few days later. It is probable that he had already contracted the disease when the injection was made.

Among the other employes of the company who were not vaccinated, and who were living under exactly the same conditions as the men who were treated, 220 cases of typhoid fever developed.

A striking illustration of the value of this prophylactic treatment is cited by Doctor Mackid; namely, 35 men who were camped within the city limits absolutely refused to be vaccinated at first. Among the latter, 11 cases of the disease developed as a result of this neglect; whereupon the men asked to be given injections. After that, only one more case occurred in this vicinity.

Since this report was published, it seems that the statistics have been completed. These are now cited by *The Lancet* as follows: Total number of men employed, 24,000; total number vaccinated, 13,900; number of cases of typhoid among the unvaccinated, 290; number of cases among those who have been vaccinated, 3.

Again we have here a demonstration of the extreme prophylactic value of this expedient. Our wonder persists that it has been so

little resorted to in civil life. An expedient which is so surely capable of preventing this extremely common disease should be employed to as frequently as vaccination against smallpox. Will someone please explain why it is so much neglected?

#### MEDICAL TREATMENT IN EXOPHTHALMIC GOITER

"Do not be hasty in urging operation for exophthalmic goiter," remarks the editor of *The American Journal of Surgery*. "Even bad cases," he continues, "sometimes recover completely under conservative treatment."

This is excellent advice, indeed, and especially appreciated because coming from a surgeon—and a good one, too. The best surgeons, by the way, are not eager to perform thyroidectomy in cases of exophthalmic goiter. The mortality following surgical intervention is high, and cure does not invariably follow; while, when it does follow, undesirable by-effects are not at all infrequent.

Before operating in any case of this kind, we would strongly advise careful trial of the method of treatment introduced by the late Professor Forchheimer, this consisting in the administration, three or four times daily, of 5-grain doses of quinine hydrobromide, in association with ergotin (1 grain). Under this treatment, the symptoms often clear up as if by magic. The method is harmless, it is unattended by mortality, it nearly always gives relief, and it sometimes seems to effect complete cure.

#### ATROPINE AS A REMEDY FOR IRRITANT GASES

In view of the introduction of irritant gases, principally chlorine, and possibly bromine, into warfare by the Germans, a good many suggestions for the prevention and treatment of suffocation from this cause have appeared in English and French medical journals. As already indicated in these pages, the principal remedy for the prevention of this form of asphyxia among soldiers is, to provide the soldier with a gauze mask moistened with a solution of sodium bicarbonate or hyposulphite.

For the relief of patients who have been so gased, the principal remedy heretofore has been oxygen by inhalation. Unfortunately, cylinders of oxygen rarely are available on the battlefield. Douglas V. Cow, of the pharmacologic laboratory of Cambridge Uni-

versity, in a recent number of *The Lancet* (May 29, p. 1147), puts forward atropine as a remedy claimed to be of great value. He says that this alkaloid does not appear to be used at present to any considerable extent in the treatment of these cases. He has, accordingly, conducted a series of experiments, to demonstrate its value (or lack of it) in chlorine or bromine poisoning.

These experiments were made upon rabbits, who were arranged in pairs, according to their body-weight, and exposed to the irritant vapor for periods of fifteen minutes and more. One animal of each pair was treated with atropine, the other being kept as a control. The doses of atropine employed were very large, varying from 2 1-2 to 4 mgm. (1-25 to 1-16 grain), it being explained that rabbits are exceedingly tolerant of this alkaloid.

The results obtained with the atropine were very marked, and agreed qualitatively throughout the series, although the effects were, of course, more obvious in some animals than in others. When removed from the gas, the animals were in every case breathing with difficulty, the rate of respiration varying from 92, to 20 to the minute, it being labored in every instance. The condition without treatment always became progressively worse, and within thirty minutes after removal from the gas, there was stridor, crepitations, and rhonchi. Under the atropine treatment, the animals became more alert, respiration much easier and less labored, the chest obviously filling and emptying more completely with each breath. The physical signs disappeared from the chest in every case except two, and in these the stridor and crepitations disappeared, only a few rhonchi remaining. In the control-animals no such improvement occurred.

Doctor Cow remarks that the improvement in the animals which received oxygen as well as atropine was particularly obvious, indicating the desirability of the combination treatment when possible.

The animals were killed about five hours after beginning treatment, and postmortem examinations were made. All the lungs from atropine-animals were found normally collapsed, while in the case of the controls the lungs remained distended, retaining the shape of the thorax, like plaster casts, after the chest was opened. Frothy fluid exuded from the cut bronchi, the amount varying considerably, but always more in the controls than in the atropine-animals. Also, there were marked differences in weight between the lungs of the atropine-animals and the con-

trols, that of the atropine-animals being considerably less than of the controls.

Finally, Doctor Cow points out that oxygen, when given alone to these rabbits, produced little or no amelioration of the symptoms, but when given in association with the atropine the benefit was very decided.

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#### HYDROGEN DIOXIDE LOCALLY IN TETANUS

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Doctor Kellermann, of the Theresa Hospital at Kissingen, reports (*Muench. Med. Woch.*, 1914, p. 2453) one case of tetanus seemingly benefited by local treatment with hydrogen dioxide. Details are not given. The idea was suggested by the fact of the bacillus being anaerobic. Once a day he injected 10 Cc. of the solution into the (partly healed and agglutinated) bullet-wound, in the direction of the course of the missile. The injections being extremely painful, morphine first was injected a quarter hour before the other.

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#### THE GENERAL PROPHYLACTIC TREATMENT OF INFECTIOUS DISEASES

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In a clinical lecture on the general treatment of infectious diseases published in the *Deutsche Medizinische Wochenschrift* for April 10, Professor Grober, of Jena, pointed out that (although, in general accord with the accepted view of the present day, the treatment of infectious diseases is specific; that is, to say, by remedies prepared from, or with the aid of, the causative virus itself) the general treatment of the organism is still of great importance, on the one hand, in order to enable it to defend itself against a bacterial invasion and, on the other hand, better to resist the harmful action of the virus once this has been established and localized in the body. It must be conceded that, other things being equal, the healthier and stronger body resists a qualitatively like infection better than does a weak body or one that has been enfeebled through other diseases.

Since phagocytosis is one of the most important provisions of defense, remedies that promote phagocytosis are particularly indicated as prophylactics, and of these the nucleins and cinnamic acids are probably the most efficient ones. Other means consist in local hyperemia, by which the protective substances of the blood are localized at the point wherein bacterial invasion occurs; and also in generous nutrition.

Of specific means of prevention, we have long known and practiced Jenner's vaccination against smallpox and, to a less degree, the prophylactic passive immunization against diphtheria. Recently methods of efficient and more or less lasting vaccination against typhoid fever and against tuberculosis have also been perfected.

While the specific remedies are of the highest importance in certain definite circumstances when the exposure to a certain kind of infection is known and unavoidable, the general strengthening of the body is even more important, in order to enable it to resist all kinds of bacterial harms; and for this purpose the prophylactic treatment with nuclein, together with a generous and suitable diet as well as with efficient elimination, will prove best adapted to protect the body against harm.

#### DIGIFOLIN: A SUBSTITUTE FOR DIGITALIS INFUSION

Digifolin, introduced by a chemical firm of Basel, is claimed to represent, in standardized form, all the therapeutically useful principles of digitalis leaves in their natural combinations and proportions, but devoid of all inert and objectionable concomitant constituents.

In a communication to the *Therapeutische Monatshefte* (Dec., 1914, p. 755), Walter Misch, of the Polyclinic Institute of the University of Berlin, quotes Hartung to the following effect: Experiments with frogs have shown digifolin (leading constituent principles, digitoxin and digitalein) to exert upon the heart and circulation the full effect of digitalis leaves, while being free from the harmful saponins and other deleterious substances present in the crude drug; besides being more resistant to the gastric ferments than is the infusion, and also not prone to deterioration.

The author of the article adds his testimony to that of a number of writers, mentioned by name, regarding the therapeutic effectiveness of the preparation, and emphasizes the exact dosage possible, as against the infusion, as well as the fact that the hypodermic administration causes no pain. His extended clinical experience is illustrated by a number of striking cases from practice.

Conclusions arrived at: The influence of digifolin upon arterial pressure, pulse rate, heart rhythm, and diuresis is excellent. Especially in disturbed decompensation, it is equally as active and specific as are the

infusion, tincture, and digalen (Cloetta). Internally, it does not derange the stomach. Intravenously, its action does not differ from digalen. Administered hypodermically, however, it is superior to digalen, in that the injections virtually are painless.

We may state that there is available in this country a digitalis preparation, known as digipoten, which presents the advantages just mentioned, and—it is "made in America."

#### WILL CALCIUM SULPHIDE CURE PHTHISIS?

From time to time we have published in this journal reports of the experience of physicians who have used calcium sulphide in the treatment of tuberculosis. While this chemical cannot be called a specific or a "cure," yet, it cannot be denied that brilliant results not infrequently follow its administration. An illustration of the truth of this remark may be found in the June 12, 1915, number of *The Medical Record* (page 988), in which A. H. Henderson, a medical missionary in China, reports a number of cases in which calcium sulphide was used in desperate cases of tuberculosis, with good results.

Doctor Henderson was led to try this remedy through reading in *The Medical Record*,<sup>\*</sup> some years ago, the report of another medical missionary, in Turkey (Doctor Ussher), who used calcium sulphide in treating infectious diseases, including smallpox, scarlet-fever, and measles. The report of Doctor Ussher's experience was reprinted at the time in *CLINICAL MEDICINE*. In view of Ussher's results, Doctor Henderson reasoned that calcium sulphide should prove "the foundation-stone for a successful attack on our stubborn foe"—tuberculosis. Below we print verbatim Doctor Henderson's report of four cases treated in this manner:

"Case 1. K. started in over two years ago with hemorrhage, cough, fever, much expectoration, and well-marked, rather diffuse signs of tuberculosis, mostly in the left lung. Treatment with calcium sulphide was begun, 6 grains a day in three doses. All expectoration and fever soon disappeared. He has never had any more hemorrhage; the tuberculous process is still active, as is evidenced by indurated spots and some pain in the chest, but the process is absolutely dry, no moist rales being heard. He has resumed his work, which was laid aside, is holding his weight, and says that he feels as well as he ever did. He has continued steadily with the calcium sulphide in doses

of from 6 to 8 grains a day, without any digestive or other trouble from it. Codliver-oil and creosote were used with the other treatment, and with these he held his own.

"Case 2. K. B. started in in much the same way, about the same time, only that his case was complicated with malarial fever. Same treatment and same results, except that, as he has been less faithful in the use of the pills, he has some cough still, but no expectoration. The last examination of sputum, some eighteen months ago, showed the bacilli clubbed.

"Case 3. S., carried in to me from a village about three miles out. Unable to walk, septic temperature, abundant blood-stained purulent expectoration and seemingly in the last stages of consumption. I gave him about a month to live, but gave him the chance of trying the treatment at home. Calcium sulphide, creosote 3 grains a day, and codliver-oil. He reported that his cough was disappearing, sputum no longer blood-stained, fever subsiding, and he was beginning to walk about. Some three months later, he walked into the dispensary so well- and healthy-looking that I did not know him. Unfortunately, he has now discontinued the treatment and his symptoms are coming back.

"Case 4. Pulmonary abscess. A fellow practitioner in Rangoon to whom I had spoken of these cases used the calcium sulphide in a case of pulmonary abscess and reported to me a simply astonishing cure. For the septic fevers, it is the drug *par excellence*. We do not have scarlet-fever out here, but, if ever I had another case to treat, I should certainly try the calcium sulphide and expect largely to modify its course."

As Doctor Henderson says, in order to be successful in these cases, it is necessary that fresh preparations of calcium sulphide be employed. He gave large doses in these cases, because he could not personally watch results closely. Apparently, Doctor Henderson believes in the "small dose frequently repeated" whenever this method of administration can be adopted. The association of nuclein and calcium sulphide is suggested.

We have referred to this paper by Henderson in the Editorial Department, this issue.

#### EARLY USE OF IPECAC IN POSTPARTUM HEMORRHAGE AND IN SHOCK

In the February number (page 131) of *American Medicine*, the editor refers editorially to the value of emetine for checking hemorrhage, especially in hemoptysis. In

a brief letter commenting upon this editorial, H. B. Young asserts that his father, a well-known physician of western Illinois (who died in 1874), said that he had accidentally discovered a new use for ipecac. He writes:

"In a labor-case, which had been easy, his [father's] patient, just as he was about to leave her, suddenly took on all the appearances of postpartum hemorrhage—blanching, sighing respiration, and collapse—but the bleeding was not in evidence. Fearing a concealed hemorrhage, although at a loss to say where it might be, he administered an emetic dose of ipecac powder; which was promptly followed by subsidence of all the alarming symptoms. The patient making an uninterrupted recovery, he decided that the supposed hemorrhage was really shock. Subsequent to this, he administered ipecac in a case of surgical shock, and so satisfactory was the result that he ever afterward made it his premier remedy for shock."

This is decidedly interesting. It shows that, after all, there is "nothing new under the sun." However, the alkaloid emetine has every advantage over the galenic ipecac, not the least being that it can be used without producing the awful nausea characteristic of the parent drug. The suggestion that the emetine may prove of value in the treatment of shock is worthy of further investigation.

#### PYORRHEA: THEORIES AND EXPERIENCES

A thoughtful paper on pyorrhea is contributed by Agostini to *The Dental Cosmos*, June (p. 645). After reviewing the different methods which have been employed in the treatment of this common disease, he summarizes his conclusions in the following "cold facts": "Its name is a failure. The surgical treatment is a failure. The vaccine treatment has been a failure." As to emetine, he withholds judgment, but, clearly, he is of the opinion that this remedy has promise, if used in association with other properly indicated therapeutic procedures, cleanliness of the oral cavity being essential for success.

In the same number of *The Dental Cosmos*, on page 704, Dr. E. N. Beall, of St. Louis, expressed his confidence in the curative value of emetine in no uncertain terms. He takes issue at once and strongly with Talbot and others who have questioned the value of emetine, and raises the question whether these critics have ever really used the remedy themselves. Beall's clinical experience in the treatment of 25 cases of pyorrhea, all of

which have been checked up by microscopic examination, convinces him that the remedy is curative when properly used. He is sure that any dentist who adheres to the following technic will be well satisfied as to the value of this alkaloid in pyorrhea:

If the specimen shows an amebic infection, inject subcutaneously 1-2 grain in the deltoid region of either arm, and inject a solution containing alkaloidal emetine, with other ingredients to take care of the associated infection (pyorrhea), into all pockets. Prescribe for the patient a solution of emetine in an alkaline medium, to be applied three times a day to all parts of the gums; and a milder solution of the same, to be used as a gargle, to control amebas on the mucous membrane of the throat and tonsils. Prophylaxis should be only superficial at this time, otherwise there is the danger of a deeper infection.

General prophylaxis should not be employed until after the seventh day. This is very important.

Repeat the same treatment on the second, third, fourth, and fifth days. On the fifth day, a subcutaneous treatment may be necessary; this depending upon the clinical appearance of the gums. After the fifth day, it is necessary to see the patient three to four times a week, and carry on persistent pocket medication over a period of from four to six weeks. This is, to prevent a reinfection during treatment.

After the mouth is in a healthy condition, a general amebicide should be used as a safety factor against a new infection. The term "new infection" is used, because there can be no reinfection after the case is cured.

This technic, while it differs in some respects from that which has been advocated in this journal, is, nevertheless, very nearly what we have recommended. For instance, we firmly believe that the emetine (in 1-2-percent solution) should be associated with antiseptics (as in the preparation known as boremetine) when intended for oral use. We also agree with Doctor Beall that best results are obtained when the remedy is used orally and subcutaneously at the same time. The suggestion, that the drug may also be used as a gargle is a good one, but when so used we would advise the dilution of the 1-2-percent solution to 1-10 or 1-5 its strength; in other words, the boremetine should be diluted by the addition of from 4 to 9 parts of water. Still more effective for application to the mouth and gums is the emetine-bearing jelly, known as gelemetine.

We strongly advise the readers of this journal to give careful trial of the technic advised by Doctor Beall, with our suggested modifications. We are hearing from many dentists and physicians who are employing the emetine method of treating pyorrhea, and when it is used as it should be used it certainly is bringing results in the vast majority of cases.

#### ON THE ACTION OF ARSENIC AND IRON IN ANEMIA

In a contribution to the *Presse Medicale*, 1914, page 381 (cf. *Ther. Monatsh.*, 1914, p. 598), Aubertin, of Paris, explains the action of arsenic and iron in anemia by saying that arsenic promotes the formation of new erythrocytes, while iron favors production of more hemoglobin and its fixation to the former.

In some cases of anemia, the administration of one or the other agent singly may suffice; as a rule, though, the two must be given conjointly for attaining satisfactory results. However, one will initiate the cure with a preliminary course of one or the other remedy, according as to what condition may be revealed, whether a diminution of red blood-cells or of hemoglobin.

All of which suggests the use of the arsenates—especially the arsenate of iron. We know by experience the value of this preparation.

#### SCABIES, BEDBUGS, LICE

In a contribution to the *Muenchener Medizinische Wochenschrift* (1914, p. 2425), F. Lesser, of Berlin (dermatologist and staff army-surgeon), briefly considers the subjects embraced in the headline. The extermination of lice, he asserts, in an extremely simple matter. The hair of the head is clipped short, then kerosene is rubbed in. Before retiring, the subject lathers his whole body with a sulphur-soap, washing it off the next morning. He mentions vinegar of cevadilla as effective, but entirely dispensable. His clothes, knapsack, and bedding are thoroughly beaten (straw-mattresses being emptied) and (preferably) fumigated with sulphur. This eradicates the body-lice.

The crab-lice are destroyed by means of weak mercurial ointment; which, though, should only be worked into the hair, and not at all rubbed on (or, worse, into) the skin, so far as the genital region is concerned, inasmuch as this not infrequently results in a disagreeable and obstinate dermatitis. More-

over, never should the pubic hair be shaved off, since in regrowing the stubs give rise to provoking irritation that, in the case of a soldier, may greatly reduce his value for a while.

As to scabies, or itch, Doctor Lesser declares that, odd as it may sound, this affection very often proves most difficult of diagnosis, many times being dismissed as being a result of scratching because of the bites from the various domestic insects; while, on the other hand, this latter condition erroneously will be treated as scabies. Even the increased itching after going to bed is a dubious sign. Exemplifying, he tells how Kaposi, when yet an assistant of his former teacher, Hebra, would, in the clinics, recognize every, even the most rare, skin disease, only to fall down on cases of itch. Naturally, there is much occasion for such confusion in active warfare, what with bugs, lice, and fleas omnipresent.

Lesser adduces one important diagnostic criterion which he thinks is not receiving due recognition; namely: if the terminals of the skin folds proceeding from the armpit are free from itching, one quite safely may assume the absence of the itch-mite. Their localization between the fingers and on the penis is, of course, fully understood. If the skin scratches owe their existence to biting insects, the trouble will be found, as a rule, where the garments fit more closely, as, about the hips and shoulders.

#### SYMPTOMATOLOGY AND THERAPY OF ANGINA ABDOMINALIS

In a discussion of the condition known among German physicians as angina abdominalis, M. J. Breitmann (*Zentralbl. f. Inn. Med.*; cf. *Muench. Med. Woch.*, Jan. 5) presents the following clinical picture, as resulting from the causative sclerosis of the abdominal arteries or from vascular spasm; that is, in fact, a condition of arteriosclerosis. The prominent symptoms observed are:

Painful meteorism (resulting from intestinal paresis), abdominal pains that sometimes are very severe, pulsations in the epigastric region, facial pallor, vertigo, swooning, and sensitiveness to pressure upon the abdominal aorta. These phenomena set in periodically. In arriving at the diagnosis, diseased conditions of the abdominal organs must be excluded. The prognosis, as a rule, is unfavorable, inasmuch as the symptoms of abdominal angina frequently already constitute the beginning of the end and lead to paralysis of the heart.

The treatment in this condition should include hydrotherapy, adonis vernalis, nitrates, diuretin, iodine, abstinence from alcoholics and tobacco, and a lactovegetarian diet. Tiodin is the author's choice for the iodine medication. The neuralgic pains he combats with aspirin in conjunction with urotropin or iodopyrin. Oil (sesame, olive, etc.) clysmata for the meteorism.

#### THREE ATTACKS OF SCARLET-FEVER IN A YEAR

In *The British Medical Journal* of June 12 (p. 1003), Dr. M. Stewart Smith reports a case of three attacks of scarlet-fever occurring in the same individual within one year. The patient was a child, six years old. The first attack, associated with tonsillitis, occurred on June 17, 1914. The eruption was faint, but desquamation typical. The disease took a normal course. On December 14, the same year, the doctor was called to see the same child, and found all the signs of a typical attack of scarlet-fever. In this instance, the rash was very marked. An attack of otitis media occurred as a complication. On the succeeding February 18, the patient was seen again by Doctor Smith, and again all the symptoms and signs of scarlet-fever were present. This ran its usual course, and the hands and feet peeled in the manner seen in this disease. There were no complications.

The Doctor observed that the tonsils were large, and, as they seemed to provide the nidus of infection, they were enucleated after the third attack.

#### REFLECTIONS ON RED-CROSS SERVICE AND DOCTORS IN THE WAR

Writing from the front, in the Austria-Hungary conflict with Russia, General-Staff Surgeon Myrdacz, of Graz, contributes to the *Militaerarzt*, Vienna (1915, No. 1), a few brief "New Year thoughts" on the work of the medical profession in the service of humanity, from which a few passages may be cited, as of a certain interest to every member of the profession.

"Above all," we read, "must be emphasized the enormous losses of the medical corps sustained through death on the battlefield and by murder, through maiming and epidemics. Like every branch of the army, so the surgeons are doing superhuman work, and every distinction between combatants and non-combatants among them has vanished. Already there may be seen in our ranks men

whose breasts are decorated with insignia of heroism, valor, and distinguished services. Indeed, the creation of an officers' corps without division into combatants and non-combatants seems certain to follow this war; for, all have battled, battled with every resource of personal valor, unyielding pertinacity, every aid offered by technic and science. So, the interfering bureaucracy is shattered and wiped out; with its interminable red-tape system of reports, inventories, documents, and all. . . .

"And the Geneva Convention? Torn up, like all other international treaties, trod under foot by Europeans lapsed back into savagery—not to mention Hindus, Moors, and Kaffirs—it has become a worthless bit of paper; and this in the year when steps were being instituted for the celebration of its semicentennial jubilee. In view of the shocking cruelties committed in Belgium, France, Galicia, where military surgeons were shot, wounded, and tortured merely because it was a case of war, while places for the care of the wounded and sick were bombarded, the celebration quietly was abandoned.

"Only as a national institution the Red Cross persists, and it is doing a grand work. . . . Never before has the consciousness of beneficent blessed work penetrated so deeply and broadcast into the populace; in the most remote and poverty-stricken hamlets the people contributed to the Red Cross, often with great sacrifice, and are happy when they personally are privileged to take over the care of wounded unfortunates."

#### ON THE COMBINATION OF MALE FERN WITH CASTOR-OIL

In number 44 (1914) of the *Muenchener Medizinische Wochenschrift*, F. Schotten, of Mainz, describes at length the case of a 27-year-old woman suffering from Addison's disease who died, under typical symptoms, after taking a certain, reliable, preparation of oleoresin of male fern and castor-oil. The author joins those medical authors who consider that castor-oil renders the filix extract more dangerous and, hence, should be abjured. Incidentally he points out that virtually all vermifuges must be classed with the antiseptics and, thus, are cell-poisons, which, if too largely absorbed, must endanger the host as well as the enteroparasites.

Challenging the conclusions of the writer cited, Eugen Dieterich, the famed manufacturer of Helfenberg a. G., comes to the defense of the combination in question. While

once in a long while instances of intoxication or death are being reported, he happens to know, on the other hand, that of the particular preparation more than 5 million doses have been dispensed for the removal of tapeworms, and with the happiest results. Moreover, no one yet has shown the castor-oil to be the guilty factor; the only thing demonstrated is, that filix mas is a potent medicament and should be given unquestioned to healthy persons only, but always with much circumspection when the subject is seriously sick.

In the present instance, the unfortunate outcome rather seems to prove, according to Dieterich, that in melasma suprarenale filix is contraindicated. But, still more, the remedy (the oleoresin and the oil contained in separate capsules) was not taken in conformity with the printed directions, and also the dietetic rules were ignored; as a consequence, the male-fern extract remained altogether too long in the bowels. Charge unproven.

In this connection, we may add that we know of one Chicago firm that has sold thousands of bottles of a tapeworm remover containing male fern and castor-oil; and only good results have been reported.

#### TUBERCULIN USED IN PROGRESSIVE PARESIS

A. Joachim, of Rekawinkel (Austria), reports briefly (*Wien. Med. Woch.*, 1914, No. 44) upon 10 cases of progressive general paresis in which treatment with tuberculin gave excellent results. When the treatment was undertaken reasonably early and carried out vigorously, the patients were dismissed as cured within six or eight months, then returned home and took up their vocations. One had remained cured at that time for three and one-half years.

#### RECOVERY FROM GANGRENE OF LUNG WITHOUT SURGICAL INTERVENTION

Kaiser, of the Medical Clinic at Marburg, has described (*Med. Klin.*, 1914, p. 845; cf. *Ther. Monat.*, Aug., 1914) three cases of pulmonary gangrene in which expectant treatment was followed and the patients recovered without surgical intervention. Consequently, in such cases should conditions seem hazardous for operation, the attending physician would be justified in procrastinating—always, prepared, however, for instant pneumotomy.

# Miscellaneous Articles

## Dysentery in Napoleon's Army During the Campaign in Russia, Anno 1812

FRUITFUL and extensive is the field of universal history; in its circle dwells the whole moral world; through all conditions through which man has lived, through all changes of opinion, through all his folly and all his wisdom, through his deterioration, his improvement, history accompanies him; of all that he took for himself and all that he gave, history has to give account.

These were words uttered by Schiller in his ever memorable inaugural address as professor of history, delivered in Jena on May 26, 1789.

Napoleon said, "History is the true philosophy."

There is no one of us to whom history has not something important to say.

When a man studies medicine, and medicine only, he will never be a good physician, but only an artisan. There is a difference between a philosophical mind and that of one who concentrates his energy solely to fulfil the conditions which enable him to gain all such advantages from his profession that will improve his material state, that satisfy a petty passion for glory; and this man thinks it is wasting time to study universal history, which time should be devoted to medical studies exclusively. And when he has attained his first aim, entered into practice, his whole care is, to preserve all the treasures which he has committed to memory and to prevent their value from being reduced. He expects reward for his labor, appreciation, distinction in medical societies, and security against want, and, if he does not succeed, who is more miserable than he, the physician? He has lived in vain, worked in vain; he has searched the truth in vain, when the truth has not come in form of fame and gold. Deplorable man, who has worked in the field of science and art, to secure nothing more than the meanest, common laborer, who in the kingdom of most perfect liberty has had the soul of a slave.

How unsatisfactory is the reading of exclusively medical history without the study of universal history. This will appear plain to us when we read, for instance, the reports of diseases observed during Napoleon's campaigns, as medical history has been presented in monographs, without reference to the universal history of Napoleon and his time.

I wish to illustrate this by giving an extract from my book on Napoleon's campaign in Russia, anno 1812, from the chapter treating on dysentery. But even this chapter alone will not suffice if we do not read the whole history of that campaign.

The annihilation of the "grand army" is not to be attributed to the cold and the fearful conditions on the retreat from Moscow alone; the army was, in reality, annihilated before it reached Russia.

In the beginning of May, 1812, the great army of Napoleon arrived at the frontier of Poland, whence it proceeded by forced and most tiresome marches to the river Niemen, which forms the boundary between Lithuania and Poland, arriving at the borders of this river in the middle of June.

An immense body of soldiers (500,000) met near the city of Kowno, crossed the Niemen on pontoons, and formed, under the eyes of the Emperor, in endless battle-line on the other side. I quote:

"The forced march continued day and night over the sandy soil of Poland. The tropical heat during the day and the low temperature at night, the frequent rainstorms from the north, the camping on bare and often wet ground, the ever-increasing want of pure water and fresh provisions, the immense masses of dust, which, cloudlike, hung over the marching columns—all these difficulties put together had sapped the strength of the soldiers already at the beginning of the campaign. Many were taken sick before they reached the Niemen.

"The march through Lithuania was hastened as much as the march through Poland. Provisions became scarcer all the time, meat from cattle that had suffered from starvation and exhaustion was for a long time the soldiers' only food. The great heat and the inhalation of sand and dust dried the tissues of the body, and the thirsty soldiers longed in vain for a drink of water. Often there was no other opportunity to quench the thirst than the water afforded by the swamps. The officers were powerless to prevent the soldiers from kneeling down at stagnant pools and drinking the foul water without stint.

"Thus the army, tired to the utmost from overexertion and privation and disposed to sickness, entered the land of the enemy. The forced marches were continued during the day, through sand and dust, until stormy weather set in with rain, followed by cold winds.

"With the appearance of bad weather, dysentery, which had already been observed at the time of the crossing of the Niemen, showed itself with greater severity. The route the army had taken from camp to camp was marked by offensive evacuations. The number of the sick became so great that they could not all be attended to, and medical treatment became illusory when the supply of medicaments was exhausted.

"The greater part of the army fought in vain, however courageously, against the extending evil. As everything was wanting of which the sick were in need, there was no barrier against the spread of the disease, while at the same time the privations and hardships which had caused it continued and reached their climax.

"Some of these soldiers would march, equipped with knapsack and arms, apparently in good spirits, but suddenly would succumb and die. Others, especially those of strong constitution, would become melancholy and commit suicide. The number of deaths increased from day to day.

"Marvelous was the effect of emotion on the disease. Surgeon-General von Kohlreuter, during and after the battle of Smolensk, witnessed this influence. Of four thousand Wurttembergians who took part in that battle, there were few quite free from dysentery.

"Tired and depressed, the army dragged along; but as soon as the soldiers heard the cannon in the distance, telling them the battle was beginning, they emerged at once from their lethargy; the expression of their faces, which had been one of sadness, changed

to one of joy and hilarity. Joyfully and with great bravery they went into action. During the four days that the battle lasted and for some days afterward, dysentery disappeared as if banished by magic. When the battle was over and the privations were the same again as they had been, the disease returned with the same severity as before—nay, even worse, and the soldiers fell into complete lethargy.

"Remarkably sudden disaster followed the immoderate use of alcohol. Some Wurttembergian soldiers, who during the first days of July had been sent on requisition had discovered large quantities of brandy in a nobleman's mansion and had indulged in its immoderate use and died, like all dysentery patients who took too much alcohol.

"The number of Wurttembergians afflicted with dysentery, while on the march from the Niemen to the Dwina, amounted to three thousand; at least this many were left behind in the hospitals of Malaty, Wilna, Disna, Strizzowan and Witepsk. The number of deaths in the hospitals increased as the disease proceeded from day to day, and the number of those who died on the march was not small. Exact hospital-statistics cannot be given, except of Strizzowan, which was the only hospital from which lists had been preserved.

"Out of 902 patients, 301 died during the first three weeks; during the other three weeks, when the patients had better care, only 36 died.

"In the hospitals established on the march, in haste, in poor villages, medicaments were either wanting entirely or could be had only in insufficient quantity. All medical plants which grew on the soil in that climate were utilized by the surgeons, as, for instance, in the hospital of Witepsk, huckleberries and the root of tormentilla. Establishing the hospital in Strizzowan, some of the patients were placed in the castle, others in a barn and the rest in stables. Not without difficulties and under great dangers, provisions were procured from the neighborhood. As medicaments were used, and sometimes with really good results, the following plants, which were found in abundance in the vicinity: *cochlearia armoracia*, *acorus calamus*, *allium sativum*, *raphanus sativus*, *menyanthes trifoliata*, *salvia officinalis*.

"In the course of the following three weeks, General Count von Scheeler gave several thousand florins, to be used for the alleviation of the sufferings of the soldiers, and there were procured from great distances, namely,

from the Polish cities Mohilew, Minsk, and Wilna, suitable medicines and provisions. The proper diet, which could now be secured, together with best medicines, had an excellent effect. This is seen at a glance when perusing the statistics of the first three and the last three weeks. In some cases in which the patients had been on the way to recovery, insignificant causes would bring relapse. Potatoes grew in abundance in the vicinity of the hospital, and patients would clandestinely help themselves and eat them in excessive quantities, with fatal result.

"In some, the intestinal tract remained very weak for a long time. Emaciation of the convalescents improved only very slowly. Remarkable was a certain mental depression or indolence which remained in many patients. Even in officers who had been known as energetic and good-humored men there was seen for a long time a morose condition and very noticeable dulness. Whatever they undertook was done slowly and imperfectly. Sometimes, even with a kind of wickedness, they showed an inclination to steal or do something forbidden. Sometimes it was difficult to induce them to take exercise. Von Scherer, the physician, in order to cheer up the convalescents, ordered daily walks under guard, and this was the more necessary as oedemata developed on the extremities in those who remained motionless on their couches.

"How injurious the immoderate use of alcoholic beverages proved to be, was demonstrated in three cases of convalescents, who were still somewhat weak. They had secretly procured some bottles of brandy from the cellar of the hospital, and, with the idea of having a good time, had drunk all of it in one sitting. Very soon they had dangerous symptoms: abdominal pain, nausea and vomiting, followed by lacrimation from the protruding and inflamed eyes. They fell down senseless, had liquid and highly offensive evacuations, and died, in spite of all medical aid, in six hours. On the abdomen, the neck, the chest, and especially on the feet of the corpses of these men, there were gangrenous spots of different sizes: a plain proof that the acute inflammation, gangrene and putrefaction had been caused by the excessive irritation of the extremely weak body.

"The French army, in forced marches, pursued the enemy on the road to Moscow, over Ostrowno, Witepsk, and Smolensk. Dysentery did not abate. In the hospitals of Smolensk, Wiasma, and Ghat, were found,

besides the wounded from the battles of Krasnoe, Smolensk, and Borodino, a great number of dysentery-patients; many died on the march. The whole presented a pitiful sight, and the soldiers' contempt of life excited horror."

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#### ON THE FIRING-LINE

The medical journals already complain of the meager medical news that comes from the hospitals in the rear and on the front lines. It is hard for them to understand that much of the work done here is merely transient: the patient must be given immediate treatment for the time and occasion. Even in the hospitals in the rear, there is a constant pressure to have the patients moved on, in order to make room for more recent patients; and, then, when finally they reach the home-hospital in England, the question arises as to whether they would not do better in their own homes. Unless the wounds are very severe, the authorities as well as the patients themselves are anxious to have the wounded transferred to the private home. Those who are incurable and all who never can go into service again are pushed back and housed in institutions and elsewhere. Of course, all surgery must be done for the present moment, and what the results will be is a matter more or less difficult to determine.

To us on the firing-line, who are giving first aid to the wounded, it is a question of rapid and accurate diagnosis and what must be done at the present moment. I think I can safely say that the young surgeons along the front are becoming as thoroughly trained in their work as are the men in any other branch of service.

In one of the recent trench charges, where the enemy made a desperate effort to regain his lines and charged repeatedly throughout several hours, at least 1000 men were wounded. We were able to concentrate 20 or more surgeons at this point, besides stretcher-bearers and assistants. I was agreeably surprised to find that these wounded soldiers were so quickly cared for and sent to the rear in a very short time. Several capital operations were performed, and some very excellent work was done that would have been a credit to the most distinguished surgeons in the great centers. And all this was done without the help and appliances of a well-appointed hospital, under the cover of

a mere tent or shed, the operating surgeon doing the dressing and a great many other things at the same time. As an inspector and brigade surgeon, it was a source of great satisfaction to me to find such efficiency and skill. On another occasion, a few miles from this place, I happened to be present when 500 wounded were passed through the receiving station.

The care, dressing, and the skill in separating the different classes displayed was very satisfactory. Of course, on an occasion like this, with a number of surgeons aggregated, one or the other will show weakness and failure; but after a little experience this is recognized and the man is placed where his inefficiency will be least harmful.

Tying arteries and suturing wounds, adjusting broken bones, extracting foreign bodies, all call for anatomical knowledge that is accurate and available in a moment, and generally this efficiency is seen. It is in the prognosis concerning the future of the case, as to whether the wounds will unfit the man for any further service in the present or future, where mistakes are made most often.

Men slightly wounded and those likely to go back to service in a few weeks or months are grouped off by themselves and given immediate attention, while those who are dangerously wounded and crippled beyond the possibility of doing any further service are put in a class by themselves and sent to the rear, and, as far away as possible, out of sight. For, the effect upon a new soldier of the sight of a mangled body is worse than that of dead bodies scattered over the field. They get used to that sight, but wounded men, who moan and groan, are objects of intense sympathy and pity.

Trench fighting is very monotonous work, broken only by charges every now and then, and by repeated cannonading from either side that soon produce indifference.

The following incident will give an idea of the danger and peril likely to occur any moment. A noted member of the English House of Commons begged me to go out to the trench with him, so that he might see what was actually going on from day to day.

We visited one of the trenches that had been subject to a great deal of artillery fire during the day. The commanding officer warned us to make our visit as brief as possible, for there might be a charge along that line before midnight. On the way to the trenches, I observed a number of magazine-guns and preparations to resist an infantry charge. Groups of men were distributed all along

in hollows and behind trees, apparently waiting for something to happen. We crossed a field full of holes, where shells had exploded in the afternoon, stumbled over several dead bodies, and finally reached a trench. Everything was quiet and still, but the men seemed to recognize the possibility of a charge at that point any moment. Shots were being fired continually across a space of 60 yards or more, and we could hear a lumbering sound from the other side, as if wagons were moving here and there.

After inspecting a trench or more, we started to cross an open space to the rear, when suddenly shells began to fall, and off to the right we saw a dark body of men rushing across the trenches with great impetuosity. In a few moments they were met by our forces, and a roar of guns and shouts, and the falling of shells and flashing searchlights showed that we were right in the battle-front. In a very few moments, the enemy seemed to drive everything before him and whirled around, to flank the trenches in which we were stationed. It was evident that we were going to be captured, and for a few moments there seemed to be no alternative. To run, was, to expose ourselves to death; to remain in the trenches, was, to be captured. An Irish brigade was putting up a fierce defense on the front of this column and apparently driving the enemy off on the flank toward us.

Then suddenly two machine-guns appeared on the top of a little knoll and began to rain a shower of balls on this flanking movement. A searchlight gave us flashes of what was going on, but for a few moments it seemed that nothing could stem the torrent of men that was rushing toward the trenches where we were. Then another machine-gun came into service, and the next flash of light showed the column retreating.

The ground was strewn with the dead and wounded. The roar was deafening and our anxiety was intense beyond all words to describe. Another flashlight, and we saw that the charging column had disappeared, although shots were being fired in all directions. We took a chance and ran across an open space to the little valley beyond the firing. Here we stopped and breathed easy again. My companion turned to me with the remark that, if he ever reached the rear, he would never be seen in that country again; and I inwardly resolved not to take another risk like that, which was not exactly in my line of duty. Before morning, another charge was made at this point, but the resistance

was so severe that the enemy fell back. Over 200 wounded were taken off the field and several hundred bodies more remained all the next day in sight. At night they were buried.

This incident gives one an idea of the constant occurrences along this line of battle. The impression prevails at headquarters that this sort of fighting will break up very soon and that the allies will make steady advances, driving the enemy before them every day or so, until they are exhausted. Within four weeks, at one point of the line under my observation, it was advanced about five miles and new trenches were made. Burial parties and roadmakers are constantly at work covering up the dead and making roads over the trenches and field farther toward the front. My duty to fix the location of advance field hospitals and determining the methods of reaching them and the routes back and forth requires constant studies of the locations and the many conditions needed to facilitate the movement of the wounded. Topographical engineers constantly are moving over the ground, locating springs and determining points where troops can be moved and where guns can be placed for the greatest possible effect.

The censorship has relaxed, but the officers still are very reluctant about giving names and dates and describing occurrences. The artillery fire becomes more and more accurate on both sides. The sniping along the line of the trenches is more deadly than ever, but with it there has developed a caution and the absence of the former recklessness. We have not seen any gas-bombs in this part of the line, but are liable any moment to encounter them in the frequent desperate charges that the enemy is making to keep from being driven back.

Great attention is paid to describing the location of attacks and counterattacks that are being made all along the line. These notes are transcribed and sent to the rear. In the medical department, the same accuracy of statements is called for, and these records are sent to the rear daily. It is altogether possible that no war ever has been conducted in which such accurate history is recorded, particularly by persons actively engaged in it. In the field hospital, the clerks are required to give the name and wounds of each person who passes through them. Where the wound is severe, the number of the surgeon who gave the first dressing is noted and sent along with the patient to the rear. The original records go to head-

quarters and from there to the war department in England.

The wounded in transit are not followed as closely, but their reception in an inland hospital is recorded. In the years to come, these records will furnish data for a great many startling facts that we now see in outline only.

"BRITON."

#### STAPHISAGRIA IN ORCHITIS ASSOCIATED WITH LAME BACK

Twenty odd years ago a patient called on me with a well-developed case of orchitis, for which I prescribed Lloyd's specific staphisagria, 5 drops before meals and at bedtime, with plenty of water. This man soon recovered his usual health.

Now comes the point which I believe will help others, as it has helped me. After this patient got well, he told me repeatedly that the medicine I had given him also cured his lame back, a symptom which had given him almost constant trouble for ten years. Consequently, when after that a patient suffering from lame back presented himself, I gave him one dram of specific staphisagria (and a medicine-dropper), with directions to take 5 drops in a tablespoonful of water before each meal and at bedtime. This cured him. Since then, this remedy has proven exceedingly effective in lumbar myalgia, and my success in the treatment of these [cases] has been remarkable.

One such case was that of a laboring man, about forty years of age. When he came to me, he had been told by his attending physician that he would have to go to bed for two weeks, if he expected to get well. I gave him the staphisagria, and he went back to work the next day. He was not troubled with the back-pain again for two years, whereupon a second course of treatment with staphisagria put him on his feet again.

I can give you reports of many such cases, but I believe that the few adduced will suffice to bring home the lesson. I wish to add that the remedy never effected a cure of this trouble except in the case of men, but in them it has never failed me.

P. A. PIERSON.

Spring Hill, Kan.

[Of course, we do not know the cause of the backache in the cases reported by Doctor Pierson; we do know, however, that prostatic enlargement and almost the whole range of genitourinary affections and disorders may

be the cause of pain in the back. We also know that staphisagria is a valuable nerve-sedative as well as an effective anticongestant in inflammatory affections of the genitourinary tract.

Not everyone knows, as he should, that the alkaloid delphinine is the active principle of this drug. While delphinine is but very little prescribed, it certainly is an exceedingly efficient remedy and deserves to be much more generally employed.

Delphinine is of special service in the treatment of spermatorrhea, prostaticorrhea, vesical irritability, and orchitis. In the latter condition, we advise its use in association with, or alternation with, anemonin, the pungent, camphoraceous principle of *pulsatilla*.

Specifically, delphinine is an efficient anticonvulsant and sedative, and is said to give prompt relief in sciatica, provided it is prescribed early. It also has been employed with good result in the treatment of hysteria and chorea.

On theoretical grounds, delphinine should be of value in the treatment of lame back or pains in the back, especially when the remedy is given in association with arbutin, to disinfect the urinary tract, with sodoxylin, if the urine is highly acid, and with anemonin, if there is inflammation or irritability of the sex-glands.

What a lot of useful plant-remedies we do have, but with which most of us hardly are acquainted! We ought to devote more study to these less-known active principles. We urge our readers to follow the example of Doctor Pierson and report their experiences. —Ed.]

#### EMETINE IN NOSEBLEED—REPORT OF A CASE

This is the first time I have employed emetine hydrochloride in nosebleed, and it proves what has been said about it in *CLINICAL MEDICINE*. Here is the case:

A girl, 17 years old, started to bleed in the evening, this continuing all night. I was called in the morning. The nose was still bleeding profusely from both nostrils. I gave her 1-2 grain of emetine by hypodermic injection, and plugged both nostrils. I waited half an hour and took out the packing, and irrigated the nostrils with normal salt solution. The bleeding had stopped entirely. There was a recurrence the next day. I applied the same treatment, and there has been no recurrence since, two months after treatment. I must tell you that the girl has

has nosebleed two or three times a week for the last five or six years.

J. H. BARRETTE.

Driscoll, N. D.

#### A METHOD OF TREATING HEMORRHAGE

In the June number of *CLINICAL MEDICINE* (p. 569), Dr. J. H. Cook tells of a failure to control nosebleed by means of emetine. If the Doctor will try the following prescription, I am sure he will have no trouble:

Alum.....	drs. 1
Potassium permanganate.....	grs. 6
Carbolic acid.....	gtt. 40
Water, enough to make.....	ozs. 4

Inject this astringent solution into the nostril, and it will stop any ordinary hemorrhage, even that of cancer. I have used this prescription for more than twenty years and have yet to see the first case of epistaxis which it failed to check.

C. C. MATTHEWS.

Como, Tex.

[Thank you for this suggestion, doctor. We have no doubt that this method of treating nosebleed will be tried by many readers of this journal. Powdered alum alone often is effective, and there are many other excellent styptics that will control hemorrhage under ordinary circumstances. However, every once in a while one encounters a case of nosebleed which no ordinary local application will check.

It is for this reason that it is a good plan always to have a supply of emetine hydrochloride, in ampule form, ready to hand when such an emergency does arise. Thus far, it has been our experience that 1-2 grain of this alkaloid, injected with a hypodermic syringe, will stop the bleeding within a very few minutes. Rarely will it resist the second dose, given after a half-hour. Of course, the hypodermic use of emetine does not preclude the conjoint application of styptics to the bleeding area.

Has anyone else anything to suggest in cases of this kind?—Ed.]

#### EMETINE IN PSORIASIS AND PELLAGRA

I have seen some adverse as well as some favorable reports regarding the value of emetine in the treatment of psoriasis. In one severe case of this disease, I gave six doses of the emetine, but there was no improvement, although the patient was also suffering

from pyorrhea. The fact is, the patient has gone elsewhere, afflicted with the worst case of psoriasis I ever have seen.

However, emetine hydrochloride has done the work in all cases of pellagra in which I have tried it, and I have given it in several. I am convinced that we shall not do justice to our pellagra-patients unless we use this valuable drug.

A. L. NASON.

Maben, Miss.

[Please, doctor, give us a full report of those pellagra cases. This is a topic in which we are intensely interested.—Ed.]

#### MAKING COLLECTIONS

In a recent number of *CLINICAL MEDICINE*, you inquire concerning forms and methods used in collections. As for myself, I have no set form. I employ the Taylor (*Medical Council*) Physician's Pocket Account Book for my charge-book, and for my collections I send individual letters to parties, making a personal appeal. Recently I have adopted the method of using a Daus Tip Top Dupli-cator, and am getting out "seasonable" letters, more or less personal, but a certain number being alike. I try to make it a point to send my farmer patients letters at the time their crop-money comes in, my water-men the same for the fish-catch, and so on.

I am awaiting with interest your coming issue showing the different methods. I may add that I enjoy your interesting journal very much and can truthfully say that I begin to look forward to the next issue about two days after I get the current number. I have obtained several very helpful hints from it on different occasions. You seem to get down to the point—"What shall we do for our patient," and not simply, "What rare disease has he?"

JOHN W. ROBERTSON.

Onancock, Va.

#### PYORRHEA—AN ERROR IN TECHNIC

I wish to report the results of the emetine treatment in a case of pyorrhea alveolaris, the emetine being administered by injection into the gums.

This patient had a most severe form of the disease, the greater number of the teeth being very loose. I first had a dentist thoroughly scale and clean the teeth, then gave 1-2 grain emetine hydrochloride, injecting the solu-

tion well into the pus-pockets. In six or eight hours after the injection, the patient complained of pronounced soreness of the gums, rendering mastication painful. In twenty hours from the time the first treatment was given, I gave a second injection of 1-2 grain emetine, and in two hours the temperature began to rise, going to 104° F., accompanied by nausea, but no vomiting. The temperature returned to normal in about twelve hours; however, there appeared considerable swelling of the tissues of the mouth beneath the tongue, which, though, subsided in ten or twelve hours.

The patient refusing further treatment by the injection method, I administered, internally, three tablets of alcresta ipecac (each tablet containing the alkaloids from 10 grains of ipecac) three times a day, for a period of five days, then discontinued their use for a period of one week, using during the interval a solution of emetine locally to the gums. This caused nausea, although the patient said he did not swallow any of the medicine.

The patient has improved greatly, and promptly, since the treatment was begun; in fact, the improvement has been greater and more prompt in this case, treated by injecting the medicine into the gums, than any one of my cases treated by other methods.

I should like to know if anyone else has observed such a pronounced reaction from emetine when administered by this method, also the cause of such a severe reaction. Was it owing to improper administration, individual idiosyncrasy, or what?

J. P. KENNEDY.

Vancleave, Miss.

[Doctor Kennedy made the mistake (a common one) of using too strong a solution of the emetine. Barrett showed that 1-2 percent is sufficiently concentrated, and that even a 1-percent solution may cause decided irritation. If the Doctor used the 1-2-grain dispensed in ampules containing 1 1-2 Cc. of solution, *he was applying a 2.5-percent solution*; while if the ampules contained only 1 Cc., then the solution was stronger than 3 percent. No wonder the patient had a sore mouth!

There is another possibility in this case, namely, that the tissues were infected by wounding them with a sharp needle, used to inject the emetine into the pockets. *Use only a blunt-pointed needle*, remembering that these pus-sacs are loaded with bacteria, and that care must be taken not to carry these into uninfected tissues.

The ideal method of treatment is, to use for the oral applications a 1-2-percent *solution* (not 1-2 grain) of the emetine, preferably in association with the clearly indicated antiseptics, as in boremetine. To destroy *all the amebas*, it is necessary to reach the parasites through the blood stream, and this is best accomplished by injecting 1-2 grain of emetine hydrochloride into the arm, once daily for three to six days. This is better than the ipecac tablets; the latter may be easy to take, but absorption is uncertain, nausea not infrequent, and the result always a matter of doubt. When you give the drug yourself subcutaneously, you have the patient under your control, and *know* that he is getting the dose he needs.

To prevent reinfection, an antiseptic cinnamon-flavored, emetine-carrying jelly, known as gelemetine, has been introduced. It should be used in all mild cases, and as a followup in all severe ones, after the cure has been gone through with.

While it is the dentist's proper function to attend to these cases, doctor and dentist always should cooperate. Medical treatment is indicated in every case; and where, as not infrequently occurs, the dentist is disinclined to give the emetine treatment, the doctor can, and should, do so, seeing to it that any necessary local dental surgery (cleaning and the like) is properly attended to. This is a big field.—E.B.]

#### COMPROMISING SLOW AND DOUBTFUL ACCOUNTS

Did you ever agree upon a compromise settlement with a patient, doctor, and then get the worst of the deal in the end? Wasn't it you yourself who took the initiative, named the basis on which you would settle, got the debtor to agree to it promptly, and then failed to get your money, the net result being that instead of having a \$65 account on your books, for instance, you had one for only \$50?

It is worth while to remember that a debtor never forgets a compromise offer or agreement. The fact that he does not take advantage of the offer when it is made, and hand over the cash then and there, has nothing to do with the case; at least, that is his way of looking at it. He distinctly remembers, however, whenever mention is again made of the account, that he owes you \$50, and not \$65. On that point he has a vivid recollection and nothing can swerve him from it. He owes you \$50. If you should place the account with an agency ten years afterwards

for collection, entering the claim at \$65 (which you would clearly be entitled to do, the compromise agreement not having been closed), it would then come under the head of a disputed account, and the debtor would say: "This account is not correct. It should be \$50, and not \$65. The doctor told me he would settle for \$50."

Generally speaking, collections cannot be forced by discounting the bills. The offer of too liberal a discount would have the effect, in many cases, of cheapening the service; or perhaps give the debtor the impression that he had been overcharged in the first place, or both.

It is very easy for a doctor to go over his books and make an estimate of probable collections during a given period, and in doing this he will see some accounts that he would be willing to cut in two in order to get the money. But is the debtor able to meet him half way in accepting his offer? Has he the ready money to pay 50 percent in exchange for a receipt in full?

A safe rule in such cases is to avoid naming any actual figures until sounding the debtor as to his willingness to settle; and then only after having investigated his ability to do so.

The spirit of compromise is the basis of success in every walk of life, but always it should be mutual, fair to all concerned. Without mutual concessions progress would be slow indeed in politics, business, and domestic life. High ideals often must be sacrificed for something more practical; radical opinions made more tolerant; the strong persuaded to help the weak. The real spirit of compromise is harmony, which is the true basis of international treaties, as well as individual adjustments, reciprocal favors from one nation to another. The margin of compromise is sometimes narrow, so that there is very little to give or take. Again, it may be extremely wide and offer glittering bargains in the way of profitable concessions.

Whenever I see the word compromise I am reminded of a young woman whom I once knew, who often pictured the man she intended to marry. With the natural youthful tinge of romance she looked into the future and saw her heart's desire. "He must be tall and commanding in appearance," she said, "with soft brown eyes, and dark wavy brown hair. He must be brave and true and tender, and always manly." Always she clung to her ideal, doubtless receiving a certain comfort therefrom, until she finally married—until she was willing to compromise, for the husband she took was a veritable antithesis of

her youthful dreams. Instead of being tall and commanding he was five feet four, his soft brown eyes were green, his hair straight and yellow. Let us hope that he was brave, even though he tipped the scales at only 110, and tender and true always. A willingness to compromise deserves something of value in return, and doubtless she received it.

I talked with a doctor friend one time on the subject of compromising slow and doubtful accounts, and suggested that a compromise figure should never be named until all the circumstances were favorable, until the debtor had the actual money in his possession, and was ready to listen to an offer. I believed all the time that the doctor was sincere in his talk about splitting the account, helping out the debtor in some way, and you can imagine my surprise at his come-back: "Why, if he's got enough money with him to pay the account, I want it all. I don't want to compromise."

C. B. POTTER.

Chicago, Ill.

#### THE DOCTOR WHO REALLY COLLECTS

To admit, generally speaking, that the doctor is a poor business man, is, to admit that which is not true; and the reasoning of this statement is based exclusively upon the peculiarities incident to, and accompanying, the practice of the medical profession.

Just as long as the doctor is compelled to practice his profession under the present code of ethics, subject to the conditions which his profession demand, just so long will he be looked upon as a poor business man. For illustrative purposes, let us consider the following as a practical example.

The doctor receives an emergency-call to "come quick." Upon his arrival, he finds a patient suffering from a ruptured appendix, or a strangulated hernia, or a child with a stenosed larynx due to diphtheria. In this hypothetical case, an immediate operation is necessary and advised. In consequence, this will entail upon the patient the extra surgeon's fee, an expense of anywhere from \$50 to \$250. Now, during this moment of the patient's suffering and distress, with probably dissolution impending, I dare say none but the most heartless would even think of finances, much less exact a retainer-fee. Now, we who have had many and many such experiences and dismissed our patients in a few weeks, convalescent, if not entirely well, find that our services too frequently appreciated much in the manner so aptly illustrated in

the four drawings by some artist, entitled, respectively, "God," "Angel," "Man," "Devil."

I contend most emphatically that the average doctor would make a good or at least a fair business man in other walks of life. Many doctors, I quite agree, are very poor, negligent, and even dilatory in the execution of business matters, and those are the numerous fellows (however, not bad fellows) who make it most difficult for the ones that adopt more exacting methods.

Another illustration: I was hurriedly summoned, not long ago, to a parturient woman who was being attended by a midwife. Progress being slow and the patient suffering intensely, the midwife, realizing her incompetency, declined assumption of further responsibility. The woman made an uneventful recovery and, upon my dismissal from the case after two weeks (not having been previously engaged), I unhesitatingly demanded the remuneration due me. The reply was: "You will have to wait about two months." Thus disappointed, I immediately mailed from my office a bill, accompanied by a letter, again informing the patient that my services were for spot cash and that one day during the ensuing week I should call and expect payment. As a result, when I called, part of my fee was obtained, together with a promise that they would pay the rest in two weeks. This promise was fulfilled.

When the husband paid the final amount, his protestations against the contents and tone of my letter were loud, saying that he had employed many doctors before, but they never asked for pay earlier than in four or five months. Incidentally it may be mentioned that I still retain the whole family, without exception, as one of my staunchest adherents.

It is to this patient's remark, as quoted above, that I wish to call special attention. This patient voiced vociferously the sentiments and experiences of fully 80 percent of our patients. Just because the doctor fails to mail his bills regularly the first of each month and insists upon being paid, is the reason why the doctor has infinitely more difficulty in his collections than he should.

Be it well understood, that—however unfortunate for us financially—in every instance, your patient will respond, to your invitation to pay, with his check, even if you hold back your bill for three or more months. However, keeping your client reminded each month, with an occasional notation that you are in need of that which is due you, is *good* business, and conducive to good results.

Almost invariably the patient owing you a bill upon which no payment has been made will turn against you, and just so long as that account remains uncollected, just so long you have a bitter enemy; and that identical individual will call another doctor when in need of medical assistance. Hence, have no hesitancy in demanding that which is yours, and obtain it if possible, thereby retaining the respect and patronage of your client and of the community in which you are practicing. And, needless to say, you will also have the wherewithall with which to buy gasoline for your auto, so that you may be in readiness to respond to a future call of this wouldbe non-pay client.

In conclusion, money received for medical services is only part remuneration; consequently, let us, as physicians, resort to the very best business methods at our command to secure and obtain for ourselves and children those material things which are due us, and also those things to which we have right to lay claim.

G. W. TAMIESIE.

Portland, Ore.

#### POISONING BY BELLADONNA-PLASTER —ANOTHER CASE REPORTED

Apropos of Doctor Gregory's case of belladonna poisoning (see *CLINICAL MEDICINE*, June issue, p. 576), I can report a similar experience. Mrs. H. asked, over the telephone, what would help a bad pain in back. I advised a belladonna-plaster and dismissed the matter. About six or eight weeks afterward I was requested to call, and the woman said it seemed that she was growing blind, although having no pain or trouble of any kind. I found both her pupils fully dilated. She not being able to tell me what medicine she had been taking (I was not her regular physician) and I having forgotten about the belladonna-plaster I had advised previously, I told her to call her regular physician. He came, but could make nothing of the case. He then called an oculist, who, after making a thorough examination, asked the lady whether she had been using a plaster of belladonna lately; whereupon she said that she had one on now that she had been wearing for two months. When the plaster was removed, presto, the woman's eyes soon regained their normal condition. She had no other symptoms whatever of belladonna poisoning.

I think a doctor is almost criminal to order a belladonna-plaster applied and forget all about it, while leaving no directions when it

should be removed. I plead guilty to having been very careless, and my only excuse is in not seeing the lady for so long.

H. C. WALLACE.

Hot Springs, Ark.

#### THE GENERAL PRACTITIONER AS A REFRACTIONIST

I have read with interest the editorial in the March number of *CLINICAL MEDICINE* and the article of Doctor Smith's in that for June relative to a general practitioner doing refraction-work. Personally, I am now limiting my work to eye, ear, nose, and throat, but formerly did refraction-work in connection with a general practice and so learned that there is a right way to do refraction-work and a wrong way.

The idea seems very prevalent that all that is necessary to fit eye-glasses is, to put lenses before the eye and let the patient select the one with which he sees best. That, to one who did not have a good understanding of the condition, would seem to be the lens for such a one; and that is what the optician would give. The general practitioner-refractionist would do the same. Those patients, though, are fitted (or misfitted) with an active accommodation. The accommodation has been overcoming the error till the instant the patient fixes upon the test letters; the accommodation overcomes the error or very nearly so, and the optician puts on a lens that completes what the ciliary muscle is not able to do. So, to fit eye-glasses correctly, it is necessary to apply a cycloplegic drug that will put the accommodation at rest. Then, with the retinoscope, we can positively and accurately determine the total error of refraction. When this is considered in connection with the fundus-reflex and the muscular balance, we are able to write an intelligent prescription for glasses.

When I began employing the cycloplegics, I would use the optician's method first and then that of the oculist's; and it is astonishing what difference is met with in many cases. In others, the optician's method can come very near it, but, I think, a patient will do better to go along with the error to which he has become more or less accustomed than to change him to another error to which he is not accustomed. It is the low errors of refraction that give greatest trouble, and the low errors it is impossible to correct while there is active accommodation.

Of course, this does not apply to patients who have lost their accommodation through

age. I think it is positively dangerous for an optician to undertake to refract people who are under forty years of age, and, in some cases, up to sixty years.

I regret to say that many physicians share the same erroneous idea that an optician is as competent to do refraction-work as an oculist. I hope no physician who reads this ever will make the mistake again of sending a patient to an optician to be refracted. I also hope that any physician who takes up refraction-work will study the subject till he has a good working-knowledge of the retinoscope and ophthalmoscope. If so, he will be able to detect many pathological conditions in the eye that otherwise would escape his attention.

Doctor Smith says the opticians in Iowa are required to have considerable knowledge of refraction; yet, I am sure they are not required to use the cycloplegics; in fact, I am sure the oculists are the only ones who are legally permitted to use them.

Refractioning is not the simple matter some believe it to be, and, where an optician, or a general practitioner, is able to do it right, he rises out of his class and is in company with the oculist so far as refractioning is concerned. Let me say again, that no optician is competent to fit eye-glasses, and that, if a general practitioner takes up the work, he should have a good working-knowledge of the retinoscope and ophthalmoscope.

E. S. HARRIS.

Independence, Mo.

#### TREATMENT OF GASTRIC AND DUODENAL ULCERS

Regarding your abstract of W. Wolff's article in the *Medizinische Klinik*, p. 1358, 1914 (page 451 of *CLINICAL MEDICINE*), attention should be called to the fact that fatty emulsions and fat generally, also atropine, have been used for a good many years to reduce gastric supersecretion. Largely on account of its ocular action, and, as a consequence, of the danger of glaucoma after early middle life, atropine is usually contraindicated, except when the patient is confined to the house, and for a brief period. Both fats and carbohydrates tend to reduce acid and probably pepsin secretion—the quantitation of pepsin being very imperfect—and a diet low in proteid, and especially meat proteid, and correspondingly high in fats and carbohydrates, is of practical value in the treatment of hyperchlorhydria. But, it should be borne in mind that not more than 125 to 150 Grams of fat can be advantageously used

as a ration; also, that a sudden excess of either fat or carbohydrate may cause an immediate exacerbation of hyperchlorhydria.

It is important to consider that the association of hyperchlorhydria and gastric or duodenal ulcer is not very well established. Various specific ulcers, and those occurring in elderly persons from arteriosclerosis, are of opposite tendency, and it is questionable whether even acute peptic ulcer is especially connected with tendencies toward secretory excess. I do not recall a personal case originally appearing as hyperchlorhydria which subsequently developed ulcer.

Ewald's statistics, collected from various sources and including some as hyperchlorhydria in which the evidence is not very conclusive, divide ulcer cases about half and half between normal and abnormal acidity, and the latter half about equally between excessive and deficient acidity. I have never dared to intubate a bleeding peptic ulcer, but have never found an excess of acid in the vomitus. In cases of chronic ulcer, bleeding slightly, in which intubation, lavage, and local treatment with hydrogen peroxide or organic silver solution have been employed, superacidity has not been found. This is not to say that gastric ulcer may not occur with hyperchlorhydria. Such cases are encountered but they do not seem to be characteristic.

A. L. BENEDICT.

Buffalo, N. Y.

#### CURATIVE TREATMENT IN A CASE OF ECZEMA

Mr. A. H., a bridge-carpenter, age 54, came under my observation December 10, 1914. He complained of an eruption which covered his entire body, and this was immediately diagnosed as chronic eczema, of the papular, squamous type. The trouble began fifteen years ago as a mere pimple on the back of the left hand, which itched considerably and caused constant scratching. It then spread over the hand and forearm. Later, the same occurred on the right hand, after which it spread over the whole body. Treatment instituted at the beginning had no effect. When the condition had existed for almost ten years, the eruption began to dry up and scales formed. However, it suddenly reappeared in the shape of small papules that would break down and cause intense distress, and the patient could not sleep on anything that was soft.

December, 1914, I began treating this man, using, externally, the various eczema-lotions



Doctor Canfield's case of eczema. Picture taken Dec. 10, 1914



Same case of eczema. Picture taken Feb. 1, 1915.

on the market, while for internal use I prescribed the various remedies calculated to improve the condition of the blood; however, obtaining no favorable results. Finally I adopted the following course. For external application, I gave this salve:

Ichthyol.....	drs. 2
Carbolic acid.....	drs. 2
Boric acid.....	oz. 1
Lanolin.....	ozs. 3

This ointment was applied twice daily, and it seemed to relieve the itching instantly.

For internal use, I gave the following mixture:

Specific tincture of echinecea.....	drs. 2
Specific tincture echafolta.....	drs. 2
Water, enough to make.....	ozs. 4

This preparation was to be taken three times a day.

Within six weeks after beginning this treatment, the patient's skin affection had practically disappeared, and on February 1, 1915, I discharged the patient, as no signs of any eczematous condition remained, except a few pigment-spots where the large papules had appeared. The skin now is smooth and soft, there is no enlargement of the glands, and the patient feels well.

I trust that those who may make a trial of this treatment will have similar good results. The accompanying photographs were taken on December 10, 1914, and February 1, 1914.

H. A. CANFIELD.

Drain, Ore.

#### NEXT MONTH—CHILDREN'S DISEASES

Next month we have arranged for a series of articles upon children's diseases. We ex-



Doctor Canfield and some friends. Query: Which is Canfield?

pect these articles to be of exceeding helpfulness to every reader of *CLINICAL MEDICINE*. Especial attention will be given to the contagious diseases, and their diagnosis and treatment will have the center of the stage.

In order to round out this number, and fill it to overflowing with good things, we are anxious to hear from as many physicians as possible, with ideas and suggestions of all kinds. Please consider this a personal invitation to write a short item—one or two hundred words will do—for this issue. Make it practical.

Do your part, doctor. Hold up your end of the load. Get *your* shoulder under the wheel.

#### ANTIMONY AND POTASSIUM TARTRATE CURE OF ALCOHOLISM

On page 1289 of *THE AMERICAN JOURNAL OF CLINICAL MEDICINE* of 1911, I happened to see a note on McBride's "specific" for the drug habit, which reminds me of the many so-called specifics that have been advocated during the last twenty years since Keeley's "gold cure" made the professional tipster sit up and take notice.

Being a decided enemy to the bottle, I myself have waged an active campaign against drunkenness during many years, but, while I have been fairly successful in the cure of alcoholism, I am afraid that the moral perversity (or call it perversion) caused by the drug habit can never be remedied. By this I mean that the meanness acquired by habitual drunkards will stay with them even if they are cured of the habit itself.

The perversion of the sense of right and wrong in the drunkard is really astonishing. I have seen a man—a good moral fellow, kind husband and loving father before acquiring the drink habit—who became one of the most heartless brutes I ever saw. Thus, when his favorite child was on her deathbed he surreptitiously took the chicken some kind neighbor had given the mother for broth and exchanged it for drinks, and the last twenty-cent piece she had he took by force; then when the wife reproached him for his action, he snarled, "Let her go to hell, d—m her, I don't care." And that was in one of his sober moments, too.

Many times I have been sorry for curing a man of the habit, in the hope of returning to society a useful member and to his family a kind husband and father. While sometimes the results have been gratifying, more often it would have been far better to leave

these wrecks alone, as then their capacity for wrong-doing would have been limited and inhibited by the vice itself.

For example: I cured such a fellow, at the instance of his wife, who, before he became a drunkard, was a hard-working man. His wife, during the brutal periods of his vice, worked her hands off for the fellow, and I was pleased over the visions of gratefulness and his love toward his faithful better-half when he should be cured. Instead, as soon as he got over the drink-vice, he became a first-class gambler, left wife and children, and went to live with a prostitute.

Another cured drunkard became the head of a band of highwaymen whose acquaintance he had made in his drunken bouts, and meanness, cowardice, and brutality were the chief characteristics to qualify him for his new calling. One man, a fellow with a big family, not being able to drink any more himself after being cured, found his chief pleasure in seeing others drink, staying around saloons and paying for this gratification by making others drunk.

On the other hand, I also remember one young fellow, a saddler by trade, a horrible-looking bloated sot, who was cured at the instance of his mother, and who in a few months became a really good-looking chap, who was able, afterwards, to build a nice home for her and help her raise and educate his little brothers and sisters. Again, another, whose wife and children only knew what misery and starvation were, he being a farmer, was enabled to change all this with one-year's crop into abundance and happiness, and the tears of gratitude of that woman were far bigger pay than large sums of money would have been.

I also find that the greater part of the drunkards do not wish to be cured. One, a woman, had been given the medicine without her knowledge, but under my supervision. She came out splendidly, but one day she made the complaint to her daughters that she certainly must be sick—although she noticed a better appetite and felt extraordinarily well—for she could not bear the smell of brandy any more. The foolish girls laughed in her face and told what had happened.

"What," she cried, "that gringo has given me some of his medicine? I'll show him. Bring me the bottle."

Closing her nose with one hand, she swallowed some of the stuff, and, vomiting this up, she repeated the dose. This performance she repeated for several days, until at last the booze staid with her and eventually killed her.

Some time after this, I told this story to a man, a decent-looking fellow whom I had treated at his own request, and whom, of all men, I thought sure of. Well, he went and did the same thing, and it occurred to me at the time that half of the energy he put forth to regain a former bad habit would have made him a successful man had it been expended in a good cause.

Of course, my treatment was very crude, as I only wanted to make it impossible for the patient to drink, without taking into consideration the natural craving of a much-debilitated nervous system. That is, I did not give any after-treatment, as I dedicated all my time to the very poor, who, in most instances, were not able to pay me either for time or medicine. Afterwards I became disgusted and quit it entirely.

Now for the system employed, but which can be improved upon, as will be seen.

First I induced my patient to get drunk. When under the full influence of liquor, I gave him, or caused to be given, a last drink, containing as a minimum dose 1-2 Gram of antimony and potassium tartrate, previously dissolved in a little water. The dose varies with the individual. I have had subjects to whom with my own hands I have given 3 Grams in one dose without securing any effect whatever. They did not even vomit. If ever I have had to give an antidote, it was with the object of stopping too violent purging and vomiting.

The next day the whole proceeding had to be repeated, although the patient might feel a strong disinclination to do so. But I used to persuade them by telling them that the day before I had no opportunity to administer the medicine, as the liquor had made him too sick—or any other tale that would induce him to drink. The procedure must be repeated perhaps twice, else the victim will relapse after a time.

The odor of the eliminations of such patients, the vomit, perspiration, and so on, is something awful. They will cry to have the bed-clothes changed; even the bed itself and the furniture seems to them to be impregnated with the vile stuff. They can not drink afterwards, even if they want to. The young saddler, mentioned above, told me that a year and a half after the treatment, feeling rheumatic pains in his legs, his mother offered to rub them with aguardiente, and this made him vomit.

Nowadays, with apomorphine at our disposal, I should use less of tartar emetic, and then, if the latter did not respond satisfac-

torily, a hypodermic of apomorphine would help things along very nicely. However, I should always use antimony and potassium tartrate, as it is the drug that will create a persisting intolerance for liquor or for anything else for which it is given.

It is wrong, though, to allow a man his craving without permitting him to satisfy it at all. It seems to me that such an individual lives in a constant hell. To combat it, build up the nervous system, so that the desire for strong drink may die out. For this purpose, we have strychnine, caffeine, and a host of other nerve stimulants. The capsicum and nux vomica tablets are indicated here, as the patient, who might refuse to take them before treatment, will certainly take them afterward, as the nervous system fairly yells for stimulants—a desire which then cannot any more be satisfied with alcoholic beverages.

All patients are not alike. I gave a man, twice, doses of 3 Grams of tartar emetic, and he never stopped drinking a day. Nevertheless, what I have described is a good, and what one may call a "sure," treatment, all the same.

A. R. HOLLMANN.

San Miguel Allende, Gto., Mexico.

[The accompanying article from Doctor Hollmann was received several months ago. Can anyone offer experience with drink and drug cures? We shall be glad to have them. —Ed.]

#### RUBBER GLOVES FREE!

The Miller Rubber Company, of Akron, Ohio, is making such a remarkable offer, in its announcement on advertising page 47, this issue, that we want to be sure that every reader notes it. This company will give any physician a pair of their rubber gloves, absolutely free, and without any "strings." Look up the details on the page mentioned.

#### APOMORPHINE RELIEVES GALLSTONE COLIC AND ECLAMPSIA

I venture the following therapeutic suggestions, the value of which trial will prove:

In gallstone colic, nothing equals the results obtainable from apomorphine hydrochloride, gr. 1-10, hypodermatically. This I have known for fifteen years.

Apomorphine is also the first drug to consider in puerperal eclampsia; and often it is

all that will be needed for the relief of this condition.

J. J. CHAPMAN.

Nellie, Mich.

[Which reminds me that our Eclectic friends have great faith in lobelia, hypodermically administered, in all spasmodic conditions, gallstone colic among them. Like apomorphine, it is a powerful relaxant of spasm. Lobeline sulphate is (in my opinion) the form of choice.

I know of the great value of apomorphine in these gallstone cases, and urge other physicians to try the medication advised by Doctor Chapman. Apomorphine may be used in association or alternation with atropine and glonoin, when there are symptoms of shock. It is good practice to use these non-narcotic drugs when possible.—ED.]

#### THE TREATMENT OF SCIATICA

I have just read an article upon sciatica in the March number of *CLINICAL MEDICINE*. You ask who has anything else to offer upon this subject. Very well, I myself have been a great sufferer from sciatica and lumbago, and at times have been so that to move hand or foot was agony. The theory that an unclean intestinal canal is to blame for the trouble, I grant, is correct in part; however, there is a swelling of the nerves in their sheaths where they make their exit through the foramina. Personally, I have obtained the most and the quickest relief in the following manner:

First clean out the bowels quickly and thoroughly with calomel, podophyllin, and bilein. For the pain, apply moist heat to the affected limb. Internally, give a teaspoonful, every thirty minutes, of a mixture containing 30 minims each of the specific tinctures of cimicifuga, gelsemium, and bryonia, in 4 ounces of water. The bowels are disinfected with the best intestinal antiseptic I know of—the compound sulphocarbolates.

By means of this treatment, I have succeeded in securing quick and lasting relief. Sometimes I add to the foregoing mixture an equal quantity of arnica and apocynum. Instead of the fluid preparations, the concentrations may, of course, be employed, if preferred. Through my own personal experience, I know that this treatment is successful. I have used aspirin and other salicylates, but, on the whole, prefer the method outlined.

One thing I have noticed is, that my urine always becomes a deeper yellow before an attack. Also, gas forms in the bowels, although I am never constipated.

IRA A. MARSHALL.

Ironton, Mich.

#### "SCRATCHES"—HELP WANTED FOR THE DOCTOR'S HORSE

I have been interested in the articles on "The Doctor's Horse," and now wish to ask about my own horse. My driving-horse has the scratches the year around. I have tried nearly everything, locally and constitutionally, but without avail. The only thing that has done any good at all is a preparation of pine-tar, paraffin, vaseline, mercuric nitrate, and zinc-oxide ointment, applied with a paint-brush. The disease does not cause much bother until the roads begin to get muddy; after that, I must keep on treating all through the winter, else the scratches will break open and bleed upon exercise. They are not sores, but hard and sort of calloused, and are located just under the heels, on all four feet, the worst in front. The horse stays in good condition and the kidneys seem to work very good, although there is a little inclination to be constipated. The trouble has never gone above the heels.

M. E. BOVEE.

Maple Ridge, Mich.

[This letter was referred to our friend and colleague, Dr. N. S. Mayo, secretary of the American Veterinary Medical Association, who has made the following comment:

"Scratches," or "grease-heel," is a chronic inflammation of the skin in the region of the fetlocks, or heels, of horses. The disease is more common on the hind legs, because the horse frequently is compelled to stand in dung and filth, which favors infection. Wet, muddy roads, particularly in winter and spring, also favor the development of scratches.

Scratches is caused, in most cases, by organisms that invade the sebaceous glands, which in that region are large. The irritation stimulates the fatty secretion from these glands and thus gives rise to the common name grease-heel. Where the irritation is continued for a considerable time, undue proliferation of epithelial cells takes place, as described by Doctor Bovee.

The treatment should be directed toward destroying the causative organism, and the following procedure usually gives good results:

The hair is clipped off over the infected area and the part cleaned (but once only) with white soap and warm water, carefully removing all crusts. Then use antiseptics. Try a 1:1000 solution of bichloride of mercury, applied hot on absorbent cotton and kept on with bandages for several hours. The cotton should be freshly saturated with the hot solution every hour. A weak solution of formalin (not over 1-percent strength) also gives excellent results in some cases. The formalin must be kept on for not more than one hour. After applying such a watery antiseptic solution, dry the affected area thoroughly, then apply an alcoholic antiseptic: pure tincture of iodine or a mixture of equal parts of compound tincture of benzoin and oil of tar also is excellent. Apply either of these twice daily for one or two days. If the iodine proves too irritating after the second application, discontinue it. After employing the alcoholic antiseptics, apply a good antiseptic ointment twice daily. The one you describe is very good. The ointment should be applied freely, not only for its antiseptic effect, but to protect the diseased parts from water. Moisture aggravates the trouble.

The horse should be kept in a clean, dry stable, or, better, be allowed to run in pasture when the latter is not wet with rain or dew. The fact that your horse has the disease on all four legs would indicate the need of systemic treatment.

It is probable that a run in the pasture during the day will overcome the constipation. If it does not, tablets of aloin, followed by iron, quinine, and strychnine arsenate, with nuclein, in tablet form, would be indicated, or else Fowler's solution of arsenic, in 1-2-ounce doses once or twice daily. The horse should have an ounce of common salt twice a week. It should get relatively little corn in the grain ration during the treatment. It may be necessary to repeat the course of treatment.

During wet or muddy weather, the heels should be greased with a mild ointment or stiff vaseline before the horse leaves the stable, and when it comes in wet, from mud or perspiration, the heels should be wiped dry with cloths and an antiseptic ointment applied.—Ed.]

#### HOSPITAL SURGEON VERSUS COUNTRY DOCTOR

On Sunday, January 17, I was called to Washington to my daughter-in-law. She had a severe uterine hemorrhage the night pre-

vious and had called in a doctor, who administered ergot, then removed the clots—nature's remedy to stop bleeding. I found the patient very weak from the loss of blood, but, as the flow was checked, I did nothing, awaiting the Doctor's visit on Monday afternoon. I then suggested the substitution of calcium phosphate, atropine, and Buckley's uterine tonic, to which the Doctor consented. As the patient was doing well, I returned home on the 20th.

The next day, however, the Doctor came and upset my plans, and gave a prescription for medicine costing \$5.00, one bottle of pepto-mangan with 1-3 grain of strychnine, for which \$2.00 was paid.

January 31 I was again summoned, as there had been another flooding the day previous, and so much ergot had been taken that the patient vomited everything given. An ice-bag had been applied all night. Upon arrival, I took charge of the case and had the Doctor notified to stay away. Doctor Burgess states that a needle prick over the pubis will check uterine hemorrhage, but I put a hypodermic of atropine, 1-50 grain, at that point, and administered calcium phosphate. The flow was checked. Atropine, gr. 250, and calcium phosphate were continued until February 3. I took the patient to my home, 50 miles in the country, to prevent any further opposition to my treatment. Buckley's uterine tonic with the calcium phosphate and atropine, gr. 1-250, occasionally, completed the treatment. The patient remained in bed one week, and all is well.

Vaginal antiseptic tablets were used without the douche. The surgeon wanted the patient taken to the hospital and the body mutilated, which is too often done.

GEO. ROBERTS.

Lincoln, Va.

[Nothing develops resourcefulness like country practice, and the doctor who has learned his lessons by fighting his battle alone, is likely to be a strong, self-contained, and successful man, knowing disease, and knowing his tools.

Doctor Roberts knows these drug tools, as this story of a battle fought and won clearly proves. There are other good remedies for the control of hemorrhage beside surgery and ergot—but too many doctors forget this fact. Atropine is one of the best of them; the lime salts are often indicated; and toners of uterine muscle like Buckley's wonderful combination do valiant service.

Other good remedies for this purpose are hydrastinine and emetine—newer and not known so well as some others, but invaluable under certain conditions.

We like these reports—and we want more of them. Let the “sharpshooters” step into the front rank and show the rest of us what they can do. Who will be first?—Ed.]

#### AN ALABAMA ALKALOIDIST

I have been using the alkaloidal remedies for many years and should feel lost without them. The fact is, I have worn out several leather cases filled with the active principles, and much of my success I attribute to the prompt results secured with the little granules.

I use the sulphocarbolates for intestinal antiseptics almost exclusively and find an ever widening field for calx iodata. The triple arsenates, salithia and saline laxative are of special value in this warm climate. Also, I simply cannot do without aconitine, emetine, gelseminine, brucine, dosimetric trinity and the defervescent compound when treating children's diseases. The simple truth is, that I have used practically all the various active principles and synergistic combinations and I should not know how to do without them.

If any of the readers of CLINICAL MEDICINE wishes to pick out an ideal winter-home for his patients, he should send them to Fairhope. Our town is fast becoming a popular resort for northern people and espe-

cially for people living in Chicago. We shall be glad to welcome any of your friends.

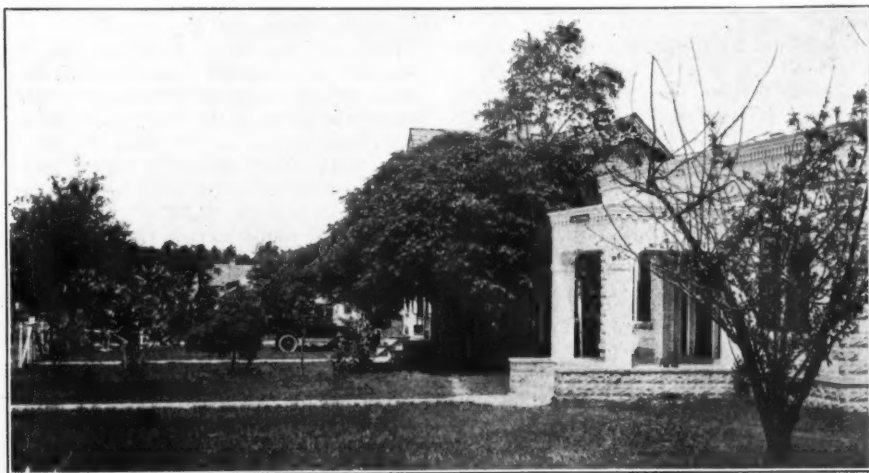
C. L. MERSHON.

Fairhope, Ala.

[The best evidence we can present regarding the attractiveness of Fairhope is, to reprint the postcard picture of Doctor Mershon's home, which he has sent us. Judging from this, Fairhope is “hard to beat.” Evidently, things are going well with Doctor Mershon, at least he has a very beautiful home in a very delightful climate—therefore, he is to be envied. We believe, and hope, that the use of the alkaloids has had not a little to do with his success.—Ed.]

#### CURRENT COMMENT BY A COUNTRY DOCTOR

*That Postgraduate and Vacation Trip.*—Ever since we failed to take our vacation-trip last year, the anticipation of it has been a source of infinite family pleasure for this year. The debate first was, whether it should be a plain American trip or a little European visit. Then came the war, and with it abandonment of the European element of discussion. The writer always has insisted that there was too much to learn right here in these United States, anyway, to justify a hurried European chase for mixed sightseeing and grabbing for stray bits of knowledge from learned individuals, ranking no higher in attainment than our own investigators, while using unfamiliar tongues.



A view in Fairhope, Alabama, with Doctor Mershon's home in the foreground, at the right.

The language-feature brought out the brand-new idea of taking a South American trip. I wonder why do not more American physicians speaking Spanish take a trip on their own hemisphere, now that commercial, social, and scientific relations are cementing between North and South America. There is plenty to see, even without exploring the hinterland for new rivers. Medically, our South American colleagues are well to the front, both in point of modern investigation and standards of medical education. The writer believes that an interchange of ideas with the Latin-Americans would do the American physicians good, especially those of the gulf-states.

The writer does not know in detail what facilities are extended to foreign investigators in the South American republics, having personal familiarity with but one Latin-American country—Mexico; but he has no doubt that they are ample and characteristic of the hospitality of the race. A trip through the Canal—we all want to see the Canal—thence around the continent, with visits at the various seats of learning and hospitals, not only would be enjoyable, but helpful.

Spanish would be the language needed on the trip, except when Brazilian stops were made. Bahia and Rio de Janiero could not be missed—and when one speaks Spanish, he almost has a working-knowledge of Portuguese. A great impetus to the study of Spanish has been given since the European war, and the writer is glad to see this. For one reason, because, of all the Romance tongues, Spanish is the easiest language to acquire by English-speaking individuals and students of derivation. At the breaking up of the western Roman empire, the Pyrenees formed such a protection to the Iberian peninsula that there was less frequency of barbarian invasion, while the Saracen conquest proved a real blessing. It was this branch of Saracen stock that kept alive the flame of knowledge which they found in Europe and, through the so-called dark ages, added to it their own more advanced scientific conceptions. In one part of the then, as now, turbulent world, there existed the phenomenon of race and religious toleration to an extent that forms almost a historic paradox. Here were Christian, Jewish, Mohammedan, and crude Visigothic pantheists dwelling together, making evolutionary progress despite alien rule. Hence, the comparatively pure Latinity of the Spanish language. If one has acquired a little Latin, Spanish is easy to learn, and remember: merely think of the English synonym or near-synonym of Latin origin,

and usually you have the memory-key to the word wanted.

But, with all the tour planning, beginning with Europe and ending with a trip to the A. M. A. convention at San Francisco, with the long-put-off chance to compare the present West with that of days before the barbed-wire fences and big irrigation projects (not omitting another look down into the state of Arizona's big crack, said to be just as deep as when we got our mail in Arizona Ter.). However, the drop in the price of cotton caused a complete change of all tentative plans.

As revised, the postgraduate work will be done by means of increasing the subscription list of live medical journals and by reviewing and enlarging upon knowledge on certain special lines. No need of a doctor's losing out on his P.-G. work at the prevailing rates for good literature.

As for the vacation! That also is arranged. It will be taken on the popular instalment plan. The first instalment was taken recently. When the Warrior River met the ancient sea in its partly successful effort to tear down the end of the Appalachians and turn the ocean into a fertile cotton-field it left a few holes that now are small lakes. One of these is within riding-distance and, if there are no preventing cases on hand, it is somewhat of a high-grade vacation to go there fishing. Did the writer catch many fish? Well, no! But what of the ride in the dawn through fields and swamps, with the songs of the awakening birds and the wealth of wild flowers to see as the light breaks? How about bailing out that old boat and paddling through the cypress "knees" out into the lake?

Those cypress knees themselves are an awakener of a thought train. Nature has seized upon the most available way to perpetuate the species in the swamps and caused little projections to put forth from the underwater roots, which gradually become cone-shaped protrusions above water and ere long are trees themselves, ready to continue the spread of the root-system in the ooze at the shallow bottom. Out on a log were three or four young turtles about the size of a half-dollar, to remind one of schoolboy discoveries. A little blue heron perched for a moment on a low limb before disappearing into the swamp and two green herons flapped away to safety, while a pair of "didappers" took the water route, with the same destination. A throng of other creatures made their getaway, betraying their presence, or rather where they had been present, only by rustling or gently

swaying water-plants. The colored population claim that the lake is the habitation of an enormous "gater." Once we saw its nose and eyes, but straightway it changed into a sunken log. The writer always carries his "snake-bite cure,"  $\text{KMnO}_4$ , but never even saw a moccasin. Did he catch any fish? Not a bite. But, CLINICAL MEDICINE space is too valuable to give a full description of that trip to Monette Lake.

*That Collecting Problem.*—The subject of collecting accounts rightly is receiving the attention it has been crying for for years. The problem in the South probably is more acute than elsewhere and in some ways harder to meet. In many localities, we are compelled to carry our accounts for an annual fall-settlement; and, as always, there is the tendency to put the doctor last on the list. While realizing the tightness of the times and the extraordinary calls both for charity and leniency, it is due ourselves, as well as our clientele, that we insist upon our bills being considered just as important as other obligations. The followup idea on overdue accounts is a good one; in fact, an essential. The recent suggestions in CLINICAL MEDICINE along these lines are excellent, and the writer here submits one of his own followup letters.

My Dear Sir: I was disappointed in not receiving your check for the small last-year's balance due, after again mailing the statement, with special request therefor.

The public rightly expects a high degree of efficiency in service from the modern physician; supplying this requires money. My capital is too limited to permit me to carry balances far beyond the maturity of accounts.

Failure on your part to send me the small balance above alluded to is, I am convinced, either because of nonrealization of the facts or through oversight because of the multiplicity of other things demanding your attention. In either event, I thank you in advance for a check by an early mail.

Medicines are higher than in many years, and I need the money.—Very truly yours.

The idea is, to compel attention to the fact that the profession of medicine, under the present social system, is just as dependent upon the commercial rule of business-life as is any other business. Proper system and due firmness, cooperated in by the physicians of a community, soon can bring the public up to this understanding. We must help ourselves; no one else will attend to this problem for us. While hoping that the care of the sick, as well as preventive medicine, will eventually be assumed as a duty of the State, the writer realizes that, this not as yet being the case, it is the duty of the profession to keep abreast with the methods of the day. It is an absolute essential of self-preservation.

Strange developments sometimes occur as incidents of an effort to collect, but one of the most peculiar that ever has happened to the writer occurred very recently. He followed up the "followup" system by declining to make a night-call, considering the source of it to be the very ultimate active principle of unappreciative deadbeatism, if the expression may be coined. The next day came a little girl with two paper sacks and a sarcastic note. In one sack were eleven empty bottles (two of the patent-medicine panel variety), the others bearing his own label and legend, "Kindly return when empty." It was the other sack that was the poser. It contained a wilted head of spring cabbage. The note read, "This is because you were so good in coming to see me the other night when I was so near dead." Anyway, whether this was "coals of fire" or bucolic wit, the profession as a whole is better off. Another doctor was called and paid in real circulating medium, and the grateful recipient of the stale cabbage feels that he is relieved of a load of professional responsibility, as well as of a financial burden he can ill afford, not to mention annoyance through the usual complaint and utter dissatisfaction from a family allowed to impose on a physician far too long.

Once, many years ago, the writer had an experience which might equal the one just related; both are filed in the same group of memory-cells. After having consultation and judgment confirmed by an older man, the sending for the soon-to-be family-survivors—so supposed—as well as for the family religious advisor was consented to. It seemed that everything had been done, even to the normal salt solution; but the writer then was young and hopeful and staid right there for an all-night vigil, with the result of proving a wrong prognosis. Was there profound gratitude for faithfulness and use of the newer resources of medicine? No, but the worst "balling out" it has been the privilege of many to hear. A "ballout" for being an ignorant fool and putting decent, hard-working people to such expense and scare for nothing!

*Feeding in "Summer-Complaints."*—No line of treatment will give proper results in the various forms of summer ailments of the infantile digestive tract without proper dietary regulations. The writer's experience leads him to the conclusion that the main error in diet is, overfeeding. He starves to the textbook point, and then a little more. Results bear him out in his conclusions. Inflamed surfaces do not properly secrete digestive fluids, neither do they absorb products of

digestion. It is just the same as trying to work a sore hand—it makes more inflammation.

Where no trained nurse is in attendance, the main trouble will be with the parents. Here is where again that "big bottle" comes in handy.

Dissolve the combined sulphocarbates (intestinal antiseptic is selected) in plenty of water, flavor, and give a deep coloring with carmel. Tell those people that all elements just then necessary for nutrition are combined with that medicine. This will be true as an axiom. When the time comes to start feeding, do it carefully, whether barley-water, buttermilk or other nutriment be given. The writer makes it a routine here to use pepsin and papayotin as a digestive aid. Absolutely no harm is done if nature does not need these; if she does, they are at hand.

If a cholagog is needed, leptandroid can be added, in very small doses, or its synergist, irisoid. By the use of these in minute divided dosage, this effect can be maintained after an initial course of calomel. They can be combined with other medication or alimentation.

A. L. NOURSE.

Sawyersville, Ala.

#### PTOMAINÉ POISONING

Acting upon your invitation, printed in the May number of *CLINICAL MEDICINE*, to send in reports on experiences with diarrhea and food-poisoning, I venture to submit the following:

During the summer of 1913, and only a few weeks after I had received my diploma, I went up into the northern part of Michigan, to take the place of the regular camp-doctor in the summer camp of the engineering department of the University of Michigan. One Sunday the cook ordered a lot of dressed chicken. After dinner some of the boys complained that they did not feel very well, but did not consider themselves sick enough to need a doctor. At supper we had the rest of the chicken, which had been picked from the bones and mixed up with a gravy. In that way the meat from all the chickens was thoroughly mixed. About 1 o'clock in the night, I was awakened by cramps, but after my bowels had moved I went to bed again. The stool was soft and of very offensive odor; it also caused a burning sensation on the external parts. I had to get up twice more, the last time being at 5 o'clock.

When I got up the second time, I took a dose of homeopathic arsenicum album of the

thirtieth potency. Every time I got up I saw others moving around in the camp, so, the third time I dressed and got ready for the rush that I knew would come as soon as the camp was officially awake. I fixed some of the arsenicum in water, and when a sick man came to me I gave him a dose of the arsenic 30x. Later, when the men started out to work, I gave to each of the groups, as they went out, a vial filled with sugar disks of arsenicum 30x; ordering them to take two of the discs after every bowel movement. In all, there were 73 men in camp, and out of that number about 50 were affected. So far as I could find out, not one of those who had taken supper at the camp mess escaped.

The general symptoms were as follows: colicky pain in the abdomen, together with a feeling of nausea and weakness; a few also had vomited. The stools were dark-colored, of offensive odor, and caused excoriation of the anal mucous membrane. The victims were greatly prostrated. By night all were relieved of the diarrhea and pain, and quite a number were over the feeling of weakness. Next morning all were well.

F. F. FELLOWS.

McMinnville, Ore.

[So far as we can judge, the epidemic of food poisoning reported by Doctor Fellows was of rather mild type. Otherwise, the first appearance of symptoms would not have been so long delayed after the meal, nor would the condition have yielded so readily to treatment. In severe cases there is continuous vomiting and purging, dejections sometimes blood stained, often symptoms of prostration with not infrequently terminating in collapse. The indications are for quick and complete emptying of the alimentary canal, and for support. Empty the lower bowel with enemas of hot salt-solution, clean out stomach with the tube, and give calomel. Stiffen the heart's action with strychnine, digitalin and glonoin; apply heat to body and extremities; relieve pain with morphine, or with hyoscine and morphine in small dose; and order absolute quiet, patient being kept on his back. A pronounced case of ptomaine poisoning is always alarming and often dangerous.—Ed.]

#### TWO HARRISON-LAW PROBLEMS

When the Harrison law went into effect, a physician had 10 or 12 grains of morphine sulphate, which he desired to exchange for morphine tablets. The local druggist re-

fused. Would he have violated any law in making the exchange?

A physician was treating a morphine-habitué by means of a gradual diminution of the dose. From 16 grains a day, he got down to 1 grain. He was called away for several days, and his supply of morphine became exhausted. They called up the man's doctor by telephone, a dozen miles away, whereupon he telephoned to a druggist to furnish the patient 2 grains of morphine dissolved in 1 ounce of water. The druggist refused to do this, and, consequently, the unfortunate patient suffered terribly. Had the druggist filled it, would he have run any risk?

R. O. G.

—, Montana.

[The exchange referred to in the first paragraph of R. O. G.'s letter could be made in a perfectly legitimate way. The bulk morphine in the physician's possession, appears, of course, in his affidavit, made on March 1, of narcotic drugs in his possession at that time. Being a "dealer" under the law, he can legitimately sell morphine as well as buy it, but he can only sell to a registered dealer—a retail pharmacist, for instance. The transaction can be made in this instance by asking the druggist to fill out one of the regular narcotic order forms for the bulk morphine, handing the original to the doctor and keeping the duplicate himself. Then, if the doctor wishes to buy morphine tablets in exchange for his bulk morphine, he, in turn, will simply make out the proper order form, in this case keeping the duplicate and handing the original to the druggist. Done in this way, such a transaction is perfectly legal and proper, and cannot be criticized by anyone. The original and duplicate order forms provide vouchers covering the entire transaction.

The question raised in the second paragraph takes up the legality of a prescription over the telephone. Technically, the druggist was exactly right. Neither the law nor the regulations permit of his supplying morphine to a patient without a prescription from the doctor. He was within his rights and within the law, and could not properly do otherwise than as he did in this instance. However, I am sure there are many druggists who would strain a point, providing the doctor was a friend of his and could be depended upon to turn in a prescription for the morphine supplied the patient immediately upon his return to town. The main thing, of course, is that there shall be some voucher for every transaction of this

kind. However, we question the wisdom of asking any druggist to be "accommodating" in cases of this kind, except, possibly, in cases of direst emergency. Under such circumstances, we are sure that our federal officers would not be hypercritical.—Ed.]

#### SMALL BABIES—HERE ARE A FEW

After being challenged by Doctor Campbell and exhorted by the editor, I began to wonder whether I did not have some of those tiny youngsters on my own obstetrical list. Sure 'nuff, after a moment's reflection I remembered that I had in my possession documentary evidence in this particular line—not that I can beat the Texan in downright lack of *avoirduois*, but in point of numbers I believe I merit consideration.

I will just report three births, namely, two single births and one plural birth (twins) as being the smallest in my experience, although I have had several in which the babes came within a pound or two of being just as small.

Mrs. M. W. was delivered on January 18, 1914. The baby's weight at birth, with clothes, was 2 1-2 pounds.

Mrs. C. W., confined March 29, 1915, had a baby whose weight, including clothes, was 2 1-2 pounds.

Mrs. J. C., confined June 8, 1914, bore twins, and these weighed 2 pounds and 3 pounds, respectively.

These babies, all born one or two months before term, are doing splendidly at the present time. The first infant mentioned, who weighed only a little over 2 pounds at birth, and whom nobody ever expected to "pull through," has now increased in weight to 26 pounds at the present writing, being now 17 months old.

The second infant is still very delicate, but weighs at present 6 1-4 pounds, at the age of 2 1-2 months.

The weight of the twins has increased in one year to 14 and to 16 pounds, respectively.

I have no photographs of these infants, as the parents never had any taken. In the main, their general appearance is somewhat similar. Instead of being plump and well nourished, all have, at birth, a bluish, withered appearance, the extremities are thin and emaciated, and the skin is drawn tight over the forehead and cheeks. The whole body, with the exception of the soles of the feet and the palms of the hands, is covered with lanugo. The features are pinched.

The first two babies were wrapped in absorbent cotton immediately after birth, after being well rubbed with olive-oil. The incunations were continued steadily every day, instead of bathing them in water. The bodily heat was maintained by hot-water-bottles along the sides. They were fed every hour or two with freshly drawn mother's milk, given with a pipette, the amount being gradually increased as they improved.

By referring to Hirst, in this connection, I find that "the mortality with incubation and gavage has so greatly improved the chances of a premature infant that at six months, according to Tarnier's statistics, 22 percent are saved; at seven months, 38 percent. From an analysis of 932 premature births, Charles found that, at six months, 10 were saved; at six and a half, 20 percent; at seven, 40 percent; and at seven and a half, 75 percent."

H. G. HENRIKSEN.

New Market, Minn.

#### WHISKY AND BRANDY EXCLUDED FROM THE PHARMACOPEIA

Too late for editorial comment in this number of CLINICAL MEDICINE comes the news that the Committee of Revision of the United States Pharmacopeia has decided, by a vote of 26 to 24, to exclude whisky and brandy from the new edition of the Pharmacopeia, now nearly complete. It is said that this action is due largely to the work of Dr. Harvey W. Wiley.

We have very little respect for alcohol as a medicine, used in any form; we know there are better stimulants, and better sedatives. But— isn't it a "drug," after all? Isn't it used habitually as a "medicine" by thousands of clean, skilful, able physicians? If so, should it not be recognized as a drug, and proper standards of strength and purity, and suitable directions regarding adulterants be provided for the protection of the physician, the guidance of the pharmacist, and the welfare of the patient?

Just what the status of whisky and brandy will be, legally, especially as regards sales by the pharmacist, we are not yet prepared to say. There will be many expressions of opinion on this subject during the next few months, and they will be given a hearing later, in these pages. Perhaps this decision on the part of the Committee of Revision may help to drive home another nail in the coffin of old King Alcohol. Let us hope so.

If it does *this*, it will be worth while. But will it have this effect? Who knows?

We are waiting for more light.

#### AN UNFORTUNATE OBSTETRIC EXPERIENCE

In September, 1913, I confined a woman, 40 years of age, mother of 8 children, and who had had 9 miscarriages, 3 of them at six months, 2 at five months, and 4 at three months—this all in twenty-two years of married life. She had been suffering labor-pains for three days, without engagement of the head, and so I used the forceps before she should become exhausted. It was a high forceps operation, but, while the woman recovered in the usual normal period, the child, which weighed 12 pounds, died from convulsions on the third day.

On March 3, this year, I again confined this woman, and was requested not to use the forceps unless the labor were very prolonged. The bag ruptured early in the morning and the pains became severe about 6 in the evening. I was called at 10 o'clock, and concluded that in all probability the forceps might have to be used soon, as the child was large, with a large head. Progress was slow and the suffering severe; so I administered half a tablet of H-M-C, gave the second half in two hours, and a small quantity of chloroform during the next two hours. The baby was born at 4:30 a. m. The placenta was delivered in a few minutes. The following contractions were firm.

The mother expressed herself as feeling fine and had no remembrance of the long labor, although she had seemed to the domestic nurse to be suffering quite severe pains. The child was a 12-pound robust boy. At 10 o'clock of the forenoon afterpains became very severe, almost continuous, for which a few doses of paregoric were given by the nurse. When I saw her at noon of the next day, the patient was very tympanitic and in pain, the abdomen was very tender, the temperature was 100 degrees and the pulse rate 110. The lochial discharge was offensive, but the color was good and the quantity seemed sufficient. Incomplete rupture of the uterus was diagnosed, with subsequent infection—septic peritonitis. She died on the the third day. Necropsy was objected to.

R. J. SMITH.

Bancroft, Ida.

[In a later letter, Doctor Smith says there is strong probability of a syphilitic factor,

which might account for the degenerated condition of the uterine muscle. Has anyone a comment?—Ed.]

### PICKUPS, HERE AND THERE

For two years we have suffered an indefinite sense of something wanting; and now we recognize the cause—E. S. McKee has been all that time in the old world. But the mystery deepens. How any live man could stay away that long is hard to explain; but he is returning to Cincinnati! Give it up. Going around the world must be a tougher proposition than we thought.

Half the women operated upon for abdominal affections go on the table for gonorrhea, and one-fourth of the blind have lost their sight from the same disease.—Porter, *Southern Practitioner*.

Segregation has failed. The diminution of venereals in the U. S. Navy has been remarkable. This is due solely to a method of personal protection.—Porter.

When caffeine depresses the vasomotors and lowers blood pressure, theobromine-sodium salicylate first elevates the pressure, and later lowers it.—*Amer. Jour. Med. Sciences*.

Twilight sleep in obstetrics.—This is an ideal form of treatment in patients suffering from cardiac disease.—Rongy and Arluck, *Medical Standard*.

Tonsillitis: Hot bath and salts; aconite in early stages; phytolacca when cervical glands enlarge; macrotys for muscular soreness; gelsemium for cerebral congestion, with headache; polygonum for arrested secretions, harsh dry skin, and tense muscular pain.—*Eclectic Medical Journal*.

Chromium sulphate is indicated by fibroid degeneration and neurotic tendency: 4 grains four times daily, on empty stomach and with plenty water.—C. E. Dash.

Dash has succeeded with chromium sulphate in chronic interstitial nephritis and enlarged prostate gland, but failed in exophthalmic goiter.—*Eclectic Medical Journal*.

Gelsemine fills today so much of the field hitherto monopolized by morphine, that it offers us the best agent with which to contest

the use of morphine that leads to the abuse.—Waugh, *Medical Summary*.

For years I have met dysmenorrhea with helonin, beginning two days before the expected paroxysm and continuing until the flow was painlessly established.—*Medical Summary*.

In threatened abortion, it may be that rest in bed has done the good, but, if there is anything in clinical observation, viburnum had afforded decidedly better results.—*Medical Summary*.

Bayard Holmes continues his studies of dementia præcox, in *The Chicago Medical Recorder*. He concludes that the disease is a peripheral infection that destroys the chromaffin elements of the adrenals and sex-glands, profoundly affecting the thyroid and parathyroid glands, the thymus and brain. Preventive measures should reduce insanity to one-fourth its present prevalence here.

Bromide in the treatment of epilepsy is a distinct, a cardinal failure, an absolute mis-treatment, so far as curing the patient is concerned.—W. Held, *Chicago Medical Recorder*.

One by one, the alkaloids have forced their value upon the profession, and have become established in a position from which they will never be dislodged.—Ellingwood.

It is not unusual to see anal fistulas treated by means of medicinal applications continued for months, with no apparent progress toward recovery.—F. B. McCarty, *Illinois Medical Journal*. (First dilate the sphincter, then apply solution of iodine in oil.)

Indicanuria is due to excess of proteins in a sluggish bowel and the presence of indologenous organisms flourishing in nonacid media. A permanent installation of the bacillus bulgaricus in the bowel, with rational diet and daily emptying, is the surest safeguard.—B. Stow, *N. A. Journal of Homeopathy*.

*The North American Journal of Homeopathy* devotes one page to discussing bryonia and 20 pages to defining Homeopathy. Rather late, isn't it?

Metatarsalgia is the one ailment of the feet in which a metal support or insole is justifiable.—F. S. Lower, *Illinois Medical Journal*.

# Just Among Friends

A DEPARTMENT OF GOOD MEDICINE AND GOOD CHEER FOR THE WAYFARING DOCTOR

Conducted by GEORGE F. BUTLER, A. M., M. D.

IT is claimed that the patient usually recovers in five or six months, if he stops the use of tobacco during the first stage; in a year or so, if during the second stage; after the third stage the disease tends to pass into dementia.

As the patient often becomes (especially if smoking cigarettes) an habitué ere puberty, proper development and a balancing of the sexual and intellectual systems are checked. These patients break down mentally and physically between 14 and 25 years of age. The moral delinquencies other than sexual consist, often, in an especial tendency to forgery and deceit of parents. These most often are owing to the insanity of puberty (hebephrenia) being precipitated by tobacco. The cigarette, if used moderately, may be a sedative, but, as commonly used, is a stimulant, resembling in reaction morphine; affecting animals in a somewhat similar manner. Since tobacco turns the salivary glands (which are concerned in the digestion of starch) into excretory organs, it leads to imperfect digestion of starch, with consequent irregular fermentation in the bowel; thus at once furnishing a culture-medium from which microbes form more violent toxins and also create leukomaines, which interfere especially with a nervous system overstimulated by nicotine. This is one great reason why those who snuff and chew tobacco more frequently become insane than smokers, albeit the latter are not exempt.

Statistics from the female employees of the Spanish, French, Cuban, and American tobacco-factories—while they are defective and somewhat vitiated by the coexistence of other conditions producing degeneracy—clearly support the opinion that the habitual poisoning of women by tobacco, whether through personal use or living in a tobacco atmosphere, consequent upon occupation, is frequently the cause of miscarriage, of high infantile mortality, of defective children, and of infantile convulsions. Tobacco, in its influence upon the paternal and maternal organisms, so exhausts the nervous

system that an acquired neurosis results that becomes transmissible.

Dr. Alexander Haig attributes a great deal of importance to the maintenance of the alkalinity of the blood as the means of preventing the accumulation of uric acid in the body. Although high nutrition is one of the causes of diminished alkalinity of the blood, he does not believe that much is to be gained by great reduction of the amount of food ingested, as is recommended by some authorities.

Haig's rule for determining the proper amount of food for an adult is, that the body-weight in pounds is to be multiplied by 9, in order to get the number of grains of albumen that should be consumed daily. People who underfeed usually have a sub-normal temperature, defective circulation, and deficient blood color, and are very susceptible to bacterial infections. He further emphasizes the necessity, if uric-acid retention is to be avoided, of warm clothing, avoidance of needless exposure to cold, of an equal division between mental and physical labor, and of abstinence from fruit from October to April.

Haig sums up his views by saying that the greatest freedom from uric acid is secured by introducing none, and by eliminating each day, regularly and punctually, all that is formed in the body; and that this regularity of excretion may be obtained by clothing warmly, avoiding exposure to cold in every form, eating freely of potatoes, especially in cold weather, avoiding fruits that are out of season, and, indeed, by never taking fruits to any large extent except in very warm weather. It is also advisable to secure the proper distribution of time between bodily and mental exertion, and also to dispense with dependence upon tonics, stimulants, and bracing climates. The result would be, a better balance between body and mind, and a more healthy, natural, and useful existence than has generally been experienced either by ourselves or by our ancestors in the preceding century.

In order to determine whether uric acid and other acid waste products are forming in the body, it is necessary to make frequent examination of the urine. If the urine discloses a high degree of acidity (about 40) or shows that the degree of acidity is much below 20, it means that a proper diet must be partaken of and remedies taken, to overcome the acidemia; and for this there is nothing better than sodoxilin. Also, if there is faulty elimination from the bowels, salithia is a most excellent adjuvant. Follow Haig's advice and try these two remedies, and see how much you will benefit your uric-acid and acidemic patient.

In the time of Shakespeare, the term disease was used both by himself and by Spencer as indicating ill at ease, and not, sick. The much quoted phrase from Macbeth anent ministering to a mind diseased, as is obvious from the context, simply means, removing the normal reaction to disturbing mental influences by means of medicine. "Throw physic to the dogs; I'll none of it!" exclaimed Macbeth when he found his doctor could not administer to a mind diseased. The stuffed bosom could not be cleansed with rhubarb, senna, or other purgative drugs.

The belief of primitive races in the occult, or mysterious, was behind this disdain of Macbeth. Had his physicians claimed to possess the mysterious powers of the Indian medicine-man, of Valentine Greatrakes, or Mrs. Eddy, Macbeth would have admired him. Usually the world, as has been remarked by more than one daily newspaper, "is quite as irrational in its expectations from the healing-art as was Macbeth, and because the physician has not been able to do all that is demanded of him he really gets no credit for what he does."

There are innumerable jests about doctors generally, to the effect that medicines kill, and it even sometimes is said that, if there were no physicians, people would less often die when sick. Literature is full of allusions to the general uselessness of doctors. Ben Johnson's bedridden Volpone was resolute against drugs and doctors:

HE will not hear of drugs,  
He hath no faith in physic; he does think  
Most of your doctors are the greater danger  
And worse disease to escape.

Innumerable instances might be given of man's want of faith in the faculty. But, for all this, it is a great and noble profession, full of splendid achievements and crowned with discoveries that have ameliorated the condi-

tion and increased the wellbeing of mankind. The strongest testimony to the worth of the medical profession is found in the words of Volpone, a dissolute malingerer, who feigned to be bedridden and mortally ill, so as to secure presents from legacy-hunters who expected to profit by his will. His utter baseness was well depicted by Ben Johnson: "The contempt which he, like all feigners of disease, entertained for the medical professions is the highest compliment which could be paid it."

I often wish I could live fifty years longer, that I might see how wonderfully medicine will have changed then. Things we believe to be truths today will be looked upon as fallacies then. And how many medical fads and fallacies have come and gone in my time! But, then, we are progressing.

One thing that accounts for the opposition to progress is, the craving for therapeutic certainty. There can be no absolute certainty in therapeutics. What we desire and are aiming at is, to get as near to certainty as possible. We can be certain of nothing, save our own liability to error. Arago dared to assert that "nothing is absolutely certain outside the realm of pure mathematics." Men cry out, "Where will you stop?" The answer is: "Nowhere; we cannot stop; we are not made for it."

But, if ideas and methods must always be held open to revision and change, we are certain of nothing. Is that true? What are we certain of when the plant is changing; when the boy or girl is passing from childhood into manhood and womanhood? Not for two minutes do they remain exactly the same. You are certain that they are alive and that they promise a future better than the present; that's all.

So, when old beliefs, old uncertain remedies, old methods have given way, ever making room for new ones, and then the new in their turn grow old and obsolete, what are we certain of? Certain that medical science is alive—that through all the changes there is progress; that, if it had been dead, these advances would not be made—decay is not development; certain that Sydenham and Burggraave, those therapeutic heretics who burst the ancient bonds of the doctrines of the "fathers of medicine," still worshiped until their death the god of medicine. These men believed in the kernel, in the ultimate aim of medical science, and they, perhaps, believed in the primitive therapy, as serving the purposes of its time. They believed in it as the

florist who develops the flower believes in the bud from which he got it—believed in it as a stage through which growth was to pass—but, he did not believe in stopping at that stage. And now, as he believed in it, we believe in him; so, we must not be tied by him or anyone else to prevent us from acquiring truth for ourselves.

"But," it may be asked, "if we adopt certain therapeutic measures or remedies that are new to us, how do we know that we shall not have to change them again?" We do not know; medicine is not, nor ever can be, an exact science. Certainty of that kind is impossible, unless you are prepared not to think any more. It is the desire for that kind of certainty that gives us the "mossback" and the "dogmatist," the two most despicable obstructionists in the medical profession.

I have just finished reading all of Dr. Oliver Wendell Holmes's works for the third time. Today I ran across the following paragraph in "Our Hundred Days in Europe":

"How strange it is to look down on one's venerated teachers, after climbing with the world's progress half a century above the level where we left them! The stethoscope was almost a novelty in those days. The microscope was never mentioned by any clinical instructor I listened to while a medical student. *Nous avons changé tout cela* is true of every generation in medicine—changed oftentimes by improvement, sometimes by fashion or by the pendulum swing from one extreme to another."

We should see as great changes fifty years hence as Doctor Holmes saw in his lifetime. Today we practice according to our lights; tomorrow we may do differently. Yesterday I used carbolic acid and lysol; today I use chinosol, and like it better; tomorrow, I do not know what I may use or what I may do.

"But, this constant change," someone says, "is very disturbing and perplexing." No doubt, but that is inevitable in progress. If a flower becomes rootbound, the gardener must not grumble about the trouble of re-potting it. Likewise, if our knowledge of therapy grow too large for old beliefs, we must follow the example of the wine-merchant, who put the new wine into new bottles.

Let us never seek to squeeze an inquiring spirit into the vise of ultraconservatism or to check the broad and soaring mind in the realm of truth. Remembering the wondrous character of truth's journey down the ages, let us restrain the brand of heresy from honest men; and, if any of you who read this

article, by virtue of honest, hard, and conscientious thinking, coupled with a wide clinical experience, are looked upon with suspicion, because you use some well-tried remedy, do not enjoy the sanction of certain so-called authorities, and are spotted as "scabs" or "heretics" by heresy-hunters, let me remind you that you are in illustrious company. You rank with the Harveys, the Sydenhams, the Boerhaaves, the Jenners, the Priessnitzes, and the Burggraeves—men who could be ridiculed, but who could not be swerved. Yes, heresy is quite respectable.

#### A FEW MORE "PICK-UPS"—NOT BY DOCTOR BUTLER

An interview with Lydston appeared in a daily. To this, Lydston has taken exception, for the trifling reason that he was not present at the operation described, was not interviewed, and did not hold the views ascribed to him. What does he expect of the "news-papers," anyhow?

If public health is purchasable—and it surely is—Illinois is buying mighty little of it; her expenditure being 1-2 cent for each inhabitant.—*Illinois Medical Journal*.

J. J. Lows tells of a primipara recovering from severe puerperal eclampsia under hypos of lobeline sulphate.—Ellingwood's.

Buchu is the remedy for constant desire to urinate, with chronic irritability of the bladder.—Ellingwood.

Nuclein has given very good results in the treatment of boils, styes, and acne, as well as in coryza, otitis, and affections of the gums and teeth.—Ellingwood.

Codman said there was a Harvard medical ring and that much needless surgery was done there at fancy prices—and thereby got himself much disliked.

The *Ohio State Medical Journal* urges a suspension of the habit of knocking. Good; let the Ohio State Board set the example by ceasing to knock the independent medical colleges.

Triturate phenol, menthol, and camphor to liquid, add chloroform and oil of clove, equal parts, and you have a fine remedy for toothache.—*Medical Summary*.

# Among the Books

## "PRACTICAL MEDICINE SERIES"

The Practical Medicine Series. Ten volumes on the Year's Progress in Medicine and Surgery. Edited by Charles L. Mix, A. M., M. D. Volumes I and II. Series 1915. General Medicine and General Surgery. Chicago: The Year Book Publishers.

It is several years now since Mr. Head undertook the task of furnishing us with a current report of each year's progress, in the form of data gathered and abstracted from the field of medical literature, under the editorial guidance of Doctor Mix, and of publisher and editor alike it may be said, as was said of another veteran, that their eye is not dimmed nor their natural force abated. These men keep pace with the procession—which is no slight accomplishment, considering the speed with which the procession moves in these days.

It is really a very useful office that these books fulfill, crystallizing, as they do, into permanent form the salient items of observation and demonstration, as they drift by on the stream of current medical literature. It not only affords the practitioner a comprehensive practical summary of available therapeutic resource, but it embodies, in fact, medical history in the making.

Every physician should be a regular subscriber for this series. We may be pardoned if we remark, in passing, upon the very representative list of titles which now decorate the name of Dr. John B. Murphy, who edits the volume on General Surgery. In his person, American surgery has received world-wide recognition and honor.

## KRAUSE-HEYMANN: "SURGICAL OPERATIONS"

Textbook of Surgical Operations. By Prof. Fedor Krause and Emil Heymann, M. D. Translated from the German and edited by Albert Ehrenfried, M. D. New York: The Rebman Company. Price \$6.00.

The book, as its name implies, is primarily a textbook of operative surgery, telling how to operate; and this purpose it fulfills with all the exact detail for which the German mind is

noted. It approaches the subject in a way that is different from any other book with which we are acquainted. Actual cases are presented and discussed, and are then carefully followed from beginning to end, through the operative treatment to the end-results. It is distinctly a personal work, dominated by the genius and skill of Fedor Krause, and enriched by a plentiful supply of clinical material directly under the author's hand in the Augusta Hospital, Berlin.

The translator has modified and rearranged where it seemed advisable, entirely rewriting sections and paragraphs where German practice differs from ours. The text is illuminated and interpreted by a wealth of beautiful illustrations that surpass any textbook we know of. The treatment is broad, discussing various methods, comparing their advantages, and giving intelligent reasons why one should be preferred over another. The book is the first volume of a series of six of the Krause-Heymann system of operative surgery, to be issued, in the English language, by the Rebman Company.

## STOPFORD-TAYLOR AND MACKENNA: "SALVARSAN TREATMENT"

The Salvarsan Treatment of Syphilis in Private Practice. By George Stopford-Taylor, M. D., M. R. C. S.; and Robert William Mackenna, M. D., B. Ch. New York: The Rebman Company. 1914. Price \$1.50.

There are two distinct parts to this little book. The first part is devoted to a more or less detailed description of the technic of the preparation and administration of salvarsan, a discussion of its rationale, of its action, and an interpretation of its various findings. The second part consists of the reports of several cases in which the authors have used the salvarsan treatment, either alone or in conjunction with mercury, in their private practice. Both record the conclusions arrived at after more than three years' use of this arsenical compound in the treatment of syphilis, and based upon experience in cases where it was possible to follow out the after-histories of the patients.

"We believe," say the authors in the preface, "that anyone who reads these pages will be convinced, as we are, of the immense benefit conferred upon the human race by Ehrlich's great discovery and of its unique efficacy in controlling one of the most devastating plagues that ever ravaged mankind." In all of which we heartily agree; and we go a step further and say that the reader of this book will derive from it an immense amount of practical information concerning the proper utilization of Ehrlich's discovery.

#### REED: "MARRIAGE AND GENETICS"

Marriage and Genetics: Laws of Human Breeding and Applied Eugenics. By Charles A. L. Reed, M. D. Cincinnati: The Galton Press. 1914.

This book is from the pen of a surgeon, one who is largely engaged in dealing with conditions that affect the power of the human race to perpetuate itself. The author tells us that he first intended it as a message from the operating-room, a series of danger-signals from the hospital-ward, from the viewpoint of the man who in his professional work was coming in daily contact with the end-results of biologic errors. However, his work, as it proceeded and broadened, led him irresistibly into a consideration of the natural laws of heredity and of human breeding, which must, necessarily, form the foundation of his thesis. So, in its ultimate outcome, a book was evolved that treated of the principle of eugenics as applied to marriage and the married state. To these, the author has added a brief description and discussion of the two diseases incident to sexual vice that today are poisoning the race. These topics are of vital importance to every prospective husband and wife, as well as their unborn children. To be sure, we may not expect that many laymen will read this book or that they will understand it if they do; but it furnishes the data upon which the doctor may constitute himself the adviser and admonisher of his married and marriageable clients.

#### DELAFIELD AND PRUDDEN: "PATHOLOGY"

A Textbook of Pathology. By Francis Delafield and T. Mitchell Prudden. Tenth edition, revised with the cooperation of Francis Carter Wood, M. D. New York: William Wood & Co. 1914. Price \$5.00.

When the reviewer, who now, alas, is in middle age, was still a youngster, Delafield

and Prudden already was an established classic, a tried and trusted textbook in the schools and a universal book of reference with the practitioner. The intervening years, naturally, have seen many changes in the content of the work, as edition followed edition, but its standing and reputation have not changed. With praiseworthy diligence and wideawakeness, the authors have kept pace with the march of knowledge, and each successive edition has embodied the progress of the period. The tenth edition, now before us, is well abreast of the times. The senior author, of course, no longer shares in the preparation of the work, so that Doctor Prudden alone is responsible for alterations and additions.

The text has been sharply revised and augmented. Thus, not only have a few of the older illustrations been discarded, but more than 40 new ones have been added. All the references and footnotes have been revised and considerably added to. The chapters on the blood and the blood-forming organs and those on tumors have been contributed by Dr. Francis Carter Wood. More than in any previous editions, pathology is considered in its relation to biology, in accordance with the trend of the times, and the dynamic aspects of pathology are emphasized. Thus, the work, while old, by no means is old-fashioned. On the contrary, it is a comprehensive, modern exposition of a swiftly moving subject.

#### HEGNER: "THE GERM-CELL CYCLE IN ANIMALS"

The Germ-Cell Cycle in Animals. By Robert W. Hegner, Ph. D., assistant professor of zoology in the University of Michigan. New York: The Macmillan Company. 1914. Price \$1.75.

This book represents the substance of a course of lectures delivered during the past year, before a class in cellular biology, at the University of Michigan. The author recognizes the importance of the study of heredity from the germ-cells of animals in attacking the problems of genetics—a problem which is very much in the limelight at the present time, but sadly in need of a little intelligent handling. Within the scope of his writing, Doctor Hegner has included all those phenomena concerned with the origin and history of the germ-cells, from one generation to another; he has, however, with few exceptions, limited himself to a consideration of the germ-cells in animals, because the cycle there is

more definite and is better known than for plants.

The work is not, of course, one that will appeal to the practicing physician, as a class, having no direct bearing upon the treatment of disease or even upon the practical phases of prophylaxis. It is a purely scientific contribution to the problem of genetics. But it is among medical men, no doubt, that the largest number is to be found of those who are interested in the fundamentals of this subject, and to them we cordially recommend a thoughtful reading of Doctor Hegner's masterly book.

#### ATKINSON: "BAKING POWDER"

**Baking Powder.** A Healthful, Convenient Leavening Agent. A Domestic Science Text-book. By Thomas G. Atkinson, B. Sc., M. D., L. R. C. P. (Lond.), Professor of Physiology, Jenner Medical College, Chicago. Formerly Professor of Physiology in Chicago College of Medicine and Surgery, and American Medical College of St. Louis. Chicago: The Commonwealth Press. 1915. Price 50 cents.

Somebody has very aptly said that the wife is the secretary of state of the home. If this is so, it is equally true that the doctor is the health officer of the home, and, as such, he is interested in the healthfulness of its food supply, over which he is exercising every year more and more supervision. Among all the factors that enter into the production of appetizing and nutritious food, there is probably none more influential than baking powder; and, by the same token there is probably no article around which there has been waged a more acrimonious controversy, both scientific and commercial. In view of these facts, the doctor will welcome an authoritative, unbiased book on the subject, setting forth in simple language and impartial spirit the plain unvarnished facts relating to the manufacture, chemistry and relative healthfulness of the various kinds of baking powder.

Doctor Atkinson's book gives us precisely this concise, straightforward treatment. It is written from the broad standpoint of the physiological chemist and the domestic economist. Its style is so simple that even the housewife, who is not supposed to have studied chemistry, can grasp the significance of the chemical, no less than of the economic, side of the subject. This book should go far toward doing away with the misconceptions that have been fostered by the misleading

advertisements of conflicting trade interests, and will put into the hands of a long-suffering public the means to make its own intelligent selection of the best type of baking powder, whether for home or institution use. The author very properly points out that the crux of healthfulness in a baking powder lies in the residue or residues resulting from the chemical reactions which occur in the baking, and bases his conclusions in this respect upon a comparison of the character of the residues in the different baking powders, and the respective amounts of such residues, having regard to their medicinal doses.

The book should make a splendid textbook for teachers and students of domestic science schools. The author's experience as a teacher has evidently made it easy for him to get the point of view of the pupil, and obviates all the difficulties which have hitherto beset the task of teaching this rather confused and confusing subject.

#### LATHAM AND TORRENS: "MEDICAL DIAGNOSIS"

**Medical Diagnosis.** By Arthur Latham, M. A., M. D., and James Torrens, M. B., B. S. With 74 illustrations, 19 in colors. New York: The Macmillan Company. 1915.

For many years the large content of diagnosis and its high specialization has made it necessary to separate this phase, in the literature as well as in teaching, from the general principles and practice of medicine, of which it was formerly an integral part. And of late years still another necessity has arisen in the matter, namely, that of condensing and epitomizing what threatens to become an overwhelming mass of diagnostic data, in order that it may be available for practical use by the physician at the bedside or in the office. There certainly is a distinct place in medical literature for a book in which all the clinical information and the ordinary laboratory details necessary for the purpose of making a scientific diagnosis in a medical case are arranged in a concise and accessible form.

This is the *raison-d'être* of the book under review. The authors frankly admit presenting nothing original in their work, except the originality of adaptability. They freely confess availing themselves of existing textbooks and current medical literature. Their genius is to be seen and felt, not in the content, but in the method adopted; not in what they have included, half so much as in what they have left out, and, above all, in

the way in which they have presented the subject. This book is not a treatise for the book-shelf, but a working-manual for the desk. It is written with the customary English lucidity and straightforwardness.

#### LANDIS AND WELLS: "OBSTETRICS"

A Compend of Obstetrics. By Henry G. Landis, A. M., M. D., and William H. Wells, M. D. Ninth edition, illustrated. Philadelphia: P. Blakiston's Son & Co. 1915. Price \$1.00.

Although this little book forms one of the publishers' well-known series of quiz-compend, and therefore is not to be judged by the requirements of a full-grown textbook, yet, we cannot help remarking that, for a quiz-compend, it is wonderfully complete and exhaustive. In truth, this compend almost measures up to the stature of a textbook, without pretending to be one; in very fact, in many respects we even should prefer it to the ordinary type of textbook.

As the authors correctly point out, the question-and-answer system brings out the important facts of obstetrics more clearly than can be done by the method of continuous narrative. And the fact that the limits of such a book necessarily forbid the recording and discussing of the various disputed teachings of a hundred and one authorities and that this forces an author to maintain a judicious eclecticism, is an advantage, rather than a defect, for which no apology is needed.

In addition, we cannot refrain from also commenting with a great deal of delight upon the excellence of the illustrations, which are altogether above the average of books of this class; some of them being in colors, but all of them beautifully done by the artist and also by the publishers.

#### SCHLESINGER: "LOCAL ANESTHESIA"

Local Anesthesia. By Arthur Schlesinger, M. D. Translated by F. S. Arnold, B. A., M. D. Illustrated. New York: The Rebman Company. 1915. Price \$1.50.

This is the second translation into English that has been made, during the present year, of works on local anesthesia by German authors, the first one being that by Heinrich Braun, which was reviewed in these pages a few months ago. The present work is by an

equally distinguished authority on the subject. No one has done more original research and study in local anesthesia than Doctor Schlesinger, of Berlin, and no one has made greater effort for its clinical promotion than has he.

This book is preeminently a practical one; for it aims to give the means of perfecting their technic to anyone lacking opportunity to gain acquaintance with the various methods by observing them in hospital-practice; while for the benefit of those who may be specialists in anesthesia it treats, in accordance with the present state of knowledge, of the best methods of dealing with the more difficult problems of the subject. The author sets forth the technic which in his own wide experience has been found the simplest and most practical.

#### POLAK: "GYNECOLOGY"

Students' Manual of Gynecology. By John Osborn Polak, M. Sc., M. D., Professor of Obstetrics and Gynecology, Long Island College Hospital. Illustrated with 100 engravings and 9 colored plates. Philadelphia and New York: Lea & Febiger. 1915.

Of the making of books on gynecology there is no end, and much reading is a weariness to the flesh. We cannot conceive of any man really persuading himself that there is a call or even any excuse whatever for another book on this particular subject. However, this presumably is outside the reviewer's province. His not to reason why. His but to give a brief characterization of any work up for consideration, and that sheerly upon its own merits, as though it were the only one of its kind in existence.

Upon such a basis, it must be confessed that Doctor Polak's volume is well written and adequate to its purpose as set forth in the preface, namely, to aid the student and general practitioner "who may desire to follow intelligently the usual undergraduate and graduate courses in gynecology." Avoiding all theoretical discussions, the text sets forth, briefly and clearly, the indications for surgical intervention and gives plain descriptions of most of the usual gynecological operations. Nor is treatment limited to surgery; medical gynecology has a fair representation. The illustrations are excellent, both from the artistic and the didactic standpoint.

# Condensed Queries Answered

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report their results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

## Queries

QUERY 6019.—“Pernicious Anemia.” H. D. H., Illinois, wishes to be told of the latest and best treatment for pernicious anemia, in answer to which we regretfully must say that no satisfactory treatment for pernicious anemia thus far is known; although liquor arsenii comp. (Barclay) may prove of temporary benefit in some instances.

In this connection, our answer to another correspondent, writing from Michigan, who asks, “What may be expected of nuclein in pernicious anemia?” may prove of interest. This answer follows:

In true pernicious anemia, you hardly can expect much benefit from the use of nuclein, although in progressive secondary anemia its administration would distinctly be indicated, and results might turn out very satisfactorily. As a matter of fact, nearly all anemias are more or less progressive, and the earlier the underlying pathologic condition (the cause of causes) is discovered, the better chance we have for putting a stop to the blood deterioration.

In true progressive pernicious anemia, there is a persistent trend from bad to worse. The disease almost invariably ends fatally, treatment being of little or no avail. Of course, we can maintain elimination, strive to improve nutrition, and place the patient in the most favorable condition to resist the malady.

It is well to remember that there are three distinct categories into which cases of pernicious anemia may be grouped, namely: (1) Those in which no discoverable cause for the hemolysis is ascertained, either before or after death; (2) those in which the real cause is discovered at the necropsy only; (3) those that plainly are attributable to some primary cause or condition. In many obscure cases of idiopathic anemia, the writer believes that the hemolysis originates in the gastrointestinal capillaries and results from the generation of toxins formed in, and absorbed from, that tract. Some cases that apparently were

without cause have been found, at necropsy, to be owing to some undiscovered malignant disease, to the presence of parasites or to other unsuspected conditions.

We suggest, doctor, that you make a thorough examination of your patient and report findings in detail, at the same time sending a specimen of blood to a pathological laboratory, as a basis for further consideration.

QUERY 6020.—“Edema Angioneurotica.” J. D. W., Texas, has under treatment a man 50 years of age who complains of always feeling “as sore and stiff as an old horse,” and has been that way for at least thirty years. When he was seventeen, and a cowboy on the plains, he noticed that whenever a cold drizzling rain fell his hands and face would swell, turn red and itch; and again a few years later, the same condition occurred whenever he was out in a cold wind. Then, still a few years later, just a cold spell early in the morning would bring on the same condition, although not so badly as would a cold, windy rain. At times, his hands have been puffed so badly and his cheeks so red, swollen, and hard that they felt (and looked) as if frozen. Of late years, during the winter, he does not dare undress in a cold room, because as soon as clothes are removed and cold air hits his naked flesh a rigor attacks him, and he starts screaming and can not wait to put on a night gown, but jumps into bed and covers up from head to heels, in order to exclude the air, and there he lies shaking and screaming for sometimes as long as twenty minutes.

He always takes hepatic stimulants and takes extra good care of himself, is very temperate and religious, and says he never had gonorrhea or syphilis and never was frozen. There is neither sugar nor albumin in his urine. His skin is thin and anything touching him hurts it. The Doctor has failed to discover any nerve-center lesions. He weighs

225 pounds and is six feet high. Our diagnosis is requested.

The condition described is somewhat akin to urticaria edematosa or to edema angio-neurotica. In the latter, however, the cutaneous phenomena are ushered in with some degree of malaise and gastrointestinal disturbance. It would be well to ascertain the surface temperature, which in some instances is elevated and in others reduced. Horvitz and Ashton report attacks following exposure to draught or sudden cooling of the surface, and Wende established, in some cases, an association of albuminuria and hemoglobinuria. Unquestionably you are dealing with a vasomotor neurosis, of autotoxemic origin.

QUERY 6021.—“Condurango; Boldo; Albolene.” J. B., North Carolina, finds no mention in his materia medica of condurango, boldo, and albolene, and asks for information relative to their physical and medicinal properties.

The bark of condurango is derived from *condurango blanco*, a tree native in South America. It was introduced into medicine, in 1873, as a cure for gastric cancer, and for a time it enjoyed quite a favorable reputation. We now, however, know that this drug does not exert any direct action upon the malignant growth, although to a certain extent it is capable of diminishing the severity of the symptoms, in some cases, by exerting a favorable influence upon the gastric mucosa. Condurango may be regarded as tonic, stomachic, and slightly anodyne. The fluid extract is the form in which it ordinarily is prescribed, but unquestionably the best preparation to employ is condurangin.

This drug may be administered in gastric ulcer, gastritis, and the early stages of gastric cancer. It improves the appetite and vomiting is controlled by it. It is absolutely useless in extragastric carcinoma. The average dose of condurangin is 1 to 3 granules of 1-64 grain each, taken every two to four hours with a little hot water. A more pronounced effect may be secured by administering it hypodermically.

Boldo leaves, derived from *peumus boldo* (also a South American tree) contains an alkaloid, boldine, and a glucoside, boldoglucin. Boldine or, in a minor degree, a really active fluid preparation of boldo leaves, materially increases the elimination of urea and secretion of bile. Taken internally, it causes a bitter taste in the mouth and a slight sensation of warmth in the stomach. It materially in-

creases the appetite and digestion, and exerts a specific action upon the liver.

The drug is used in the treatment of chronic hepatitis, jaundice, hypertrophy of the liver, hepatic colic, bilious vomiting, so-called bilious headache, and cholecystitis. As a matter of fact, the drug was little known in this country until it was discussed and recommended, in the form of boldine, in these pages.

Boldine hydrobromide—the most effective of its salts—is procurable in the form of granules and tablets containing 1-64 grain, and 1-6 grain, respectively. The average dose is 1-32 to 1-6 grain every three or four hours, as conditions may demand; always with a draught of water. The best results follow the administration of the larger dose before meals and at bedtime.

Albolene is merely a trade-name for purified liquid petrolatum. It is used extensively in nose- and throat-work, and lately has been given internally in somewhat large doses as a lubricant of the intestinal tract. “Russian mineral oil” is nothing but rectified liquid petrolatum.

You will find liquid petrolatum described in Hare’s “Therapeutics” and other recent works on materia medica. Also consult The United States Dispensatory.

QUERY 6022.—“Varicose Veins.” C. E., Indiana, writes: “One of my patients has varicose veins. Some time ago I read that the Eclectics use ergotin for curing this condition, but that was about all that was said about it.”

A number of factors contribute to the development of varicosities, and it is necessary to familiarize oneself as fully as possible with the abdominal and pelvic conditions. Without exception, the urine should be examined and the heart-sounds carefully studied. In varicosities confined to one leg, and not very pronounced, the veins assume their normal appearance when the patient is in a recumbent position; and here much can be done by the proper application of elastic bandages. Frequently resection of the long saphenous vein at the saphenous opening is desirable or else the diseased vessels themselves may be resected.

A comparatively recent treatment consists in the application of specially woven bandages applied snugly from the toes to 6 inches above the varicose area and then saturated with a gelatinous paste that carries antiseptics and astringents. The paste is melted and applied warm with a brush. As many layers of bandages and paste are applied as may be necessary to form a firm, elastic dressing.

This may be left in place from four to two weeks, then is cut away and a new dressing is applied. Some very remarkable results are being secured by this method, which, of course, is based upon the old Unna dressing.

Ichthyol, 2 drams; barium chloride, 30 grains; olive-oil, 2 drams; lanolin, 6 drams, triturated together, constitutes an excellent application, being applied three times daily and covered with a snug bandage. Ichthyol, 2 drams to 6 drams of flexible collodion may be painted over the affected area twice daily. The collodion is allowed to dry and then a bandage applied.

The injection of ergotin in solution is recommended highly by some writers. However, in our judgment, it is a rather dangerous procedure. Some very intractable ulcers have followed even carefully made injections. Wherever varicose ulcers exist, the improved Unna (varicocene) treatment proves peculiarly efficacious.

QUERY 6023.—“Subnormal Temperature in Typhoid Fever.” J. N. L., New Mexico, writes: “I have treated several patients for typhoid fever this winter, whose temperature was subnormal. I could control the condition and get the patients to feeling fine, but have had considerable trouble in bringing the temperature up to normal. One patient had a drop of 3 1-2 degrees inside of eight or twelve hours. He had no hemorrhage. This drop in the temperature came on each night, and twice went as low as 95.5° F. I have had two other cases (not typhoid fever) in which there occurred a drop to 95.25° and 96.5° F. Please tell me what to do under such circumstances.”

Subnormal temperature cannot be regarded as an unusual feature; still, strangely enough, several correspondents have called our attention to the remarkable frequency of the phenomenon in their practice during the past winter.

As a rule, full doses of strychnine and cactoid and the administration of a hot saline enema will prove promptly remedial. In the case of recurrent subnormal temperature, without hemorrhage, we take it that you assured yourself that occult hemorrhage did not occur?

The administration of strychnine, gr. 1-64, and of cactoid, gr. 1-64, together with a few spoonfuls of concentrated nutrient probably will ward off this abnormal lowering of the temperature. Nuclein also might be used advantageously in such cases. It has been this writer's habit to resort to rectal alimenta-

tion under similar circumstances—peptonized beef, peptonized gruel, malted milk, defibrinated bovine blood, and similar preparations may be given every few hours. Sanguiferrin in full doses every three hours may be depended upon to produce results in the majority of cases. It is always necessary to search diligently for the causative condition and to correct that.

QUERY 6024.—“Two Interesting Cases.” S. S. M., Ohio, requests help in two cases which, so far at least, have failed to respond to treatment.

Case 1. “A woman thirty-four years old, married nine years, blond. She aborted eight years ago and has not been pregnant since, but is desirous of having a child. She has sexual desire, but an orgasm only once in two or three weeks. The clitoris is not adherent. The uterus is healthy-looking, there is no discharge and no vaginitis. I do not think that acid secretion has anything to do with her sterility. The vagina is dry. Could this woman be called impotent? Where can I procure literature shedding light upon conditions of this kind? What could cause a woman to get in this condition? No amount of teasing will bring on an orgasm.

“The uterus may possibly be retroflexed, I am not sure, as she is fleshy and has much intestinal gas. There is considerable tenderness about the gall-bladder, but no pain. She complains of ‘chilly sensations in the back’ over the kidney, these being marked, and, as she says, ‘like lumps of ice.’ She has experienced these off and on for three years. I think there also is catarrh of the colon, as she passes mucus; but the rectum is all right, so far as I can see. The urine has a specific gravity of 1015; color is light; amount in twenty-four hours is 36 ounces; it contains no albumin or phosphates. She remains constipated, no matter how many laxatives she takes or how prompt she is about going to stool.”

Case 2. “A woman (graduate nurse), aged thirty, who got deeply into a love-affair, but her parents prevented marriage. Later, pain began to be felt over and above the right eye, well up on the temple and along the forehead. Then she became insane and was taken to an asylum, where she was permitted to walk until she became tired out; she sometimes walking for forty-eight hours without resting, as I am informed. At that time she weighed 195 pounds. Later, she tells me, her feet began suddenly to burn as if they were in fire, clear up to the knees; she was wheeled about in a chair for four months, as she could

not stand. While at the asylum, she lost 45 pounds, but now weighs 195 pounds, after having been home a year. She can walk a little in house-slippers. She tells me that, if she could not see, she would not know whether her feet were in water or not, or whether she had shoes on or not. She can not bend her ankles. The big toe of the left foot stands straight up, while she can not move the other four toes of that foot. Both feet and limbs are twice the normal size, but do not pit when pressed.

"I have applied the high-frequency current to the sole of the left foot and she felt it all right. She seems to be jolly and bright and is really intelligent. She voids 46 ounces of urine in twenty-four hours which has a specific gravity of 1030 and contains no albumin. I am at a loss to know what to do for this woman. I have thought of reducing the edema by applying the vibrator and then let time do its work. The last year she has done nothing for the trouble, and it has improved considerably."

Case 1. It is quite evident that this woman is not impotent, though she may be sterile. Unfortunately, a diagnosis cannot be ventured without a much clearer idea of pelvic and general conditions. If there is retroflexion it should be corrected; and vaginal secretion and urine (four ounces from the twenty-four-hour output, stating total quantity voided) should be sent to a pathologist for examination. The condition of the cervical canal should be ascertained.

Are you quite sure that the husband is not at fault? Very many women supposed to be sterile bear children by a second husband. It is quite probable catarrhal gastritis or chololithiasis (perhaps both) may be present. Suppose you ascertain definitely the condition of the pelvic organs. Dilate the cervix if necessary, and give papain, gr. 1; pepsin, gr. 1; strychnine sulphate, gr. 1-128; berberine hydrochloride, gr. 1-32 before eating; and chionanthoid, apocynoid, bilein, and pancreatin one hour after each meal. Hot alkaline antiseptic douches followed by the insertion of a glycerin tampon, every second night, should be ordered. Faradic current to spine and over pelvic viscera.

Case 2. Here, as you can readily understand, it is absolutely impossible for us to even venture a diagnosis or offer definite therapeutic suggestions. The pulse rate, heart sounds and blood pressure should be ascertained; also area of hepatic dulness.

The reflexes also should be tested. Are you quite sure that there is anasarca of the extremities? It is just possible that pelvic infection is at the bottom of all the trouble.

The administration of apocynoid, scillitin, and caffeine might prove effective if you are dealing with a dropsical condition. It would be well to send a specimen of the patient's urine and a blood smear to a pathologist, for examination.

QUERY 6025.—"Vicarious Menstruation." J. F. K., Arkansas, is treating a girl, nineteen years of age, who has not menstruated for nearly seven months. She presents no other signs of pregnancy and seems to be in reasonably good health in all other respects. She has, however, frequent bleeding of the nose and complains of pains in the head, lower bowels, and legs, which sometimes are very severe. Her appetite is good.

Our correspondent says, "I have tried almost everything recommended for such troubles, but have not relieved her. Is there any remedy that will force menstruation in such cases?"

Vicarious menstruation, evidenced by frequent attacks of epistaxis, is not a particularly uncommon condition. In this case, it would be well, we think, to make a thorough examination of the pelvic organs, and especially to observe the condition of the cervical canal. You may have pin-hole os or atresia. Is there any possibility of a tuberculous taint?

Copious hot douches and the arsenates of iron, quinine and strychnine, with nuclein, in full doses after meals, and viburnoid, aleitroid, and caulophylloid (of each, 1-6 grain) every three or four hours, might prove beneficial. Pregnancy must, of course, be definitely excluded.

At what age did menstruation first appear? Were the periods regular until seven months ago? Is there any history of trauma or sudden chilling of the extremities?

